Combined Phase 1 & Phase 2

Ground Investigation Report

Project Sakura,

Wrexham

PREPARED BY:	FOR:	DATE:	REFERENCE:
Jubb Consulting Engineers Ltd.	TSL Projects Ltd	February 2025	23284-JCE-XX-XX-RP-GCA-001 P4

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PROJECT INFORMATION

Project Information

Client	TSL Projects Ltd

Project Details

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Location	Norish Cold Store, Wrexham
Jubb Project Number	23284
Title	Ground Conditions Assessment Report

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P1	14/02/2024	First Issue
P2	27/03/2024	Minor revisions
P3	14/06/2024	Updated following supplementary GI
P4	18/02/2024	Updated to suit revised layout

EXECUTIVE SUMMARY

Site Information	
Client	TSL Projects Ltd
Project	Project Sakura, Norish Cold Store, Wrexham
OS Co-ordinates	SJ 380 503
Site Size	The site is irregular in shape, covering a total area of approximately 5.69 Ha, with a proposed development area (as covered by red line boundary) of 3.26 Ha.
Proposals	Site proposals are for the construction of a new cold store unit and dock extension, plant room, additional production extension and 10 no. blast freezers. Additional car parking, roadways and drainage are also proposed. All existing buildings are to be retained.
Site Description	The site is generally flat but falls slightly to the southwest (from 32.5m in the north, to 30.5m AOD in the southwest). A raised embankment sits north of the existing building, up to levels of approximately 39m AOD. Current site levels are understood to have been brought about by earthwork activity in the 1980's prior to and during redevelopment of the site. The site is occupied by an existing cold store structure, with loading bays and hardstanding to the south of the buildings and soft landscaping surrounding. A watercourse runs along the western boundary of the site, at levels of approximately 28 – 29m AOD.
Current and Historic Site Uses	Pre-1900, the site comprised open fields, with several ponds and a stream flowing across the western side of the site. Post 1940s the site was occupied by Wrexham ROF, with numerous bunded storage buildings being constructed on the site, and the stream was diverted and straightened. After the 1980's site was understood to be levelled, and remained disused until 1995 when the current building was constructed.
Ground Conditions	
Geology	BGS mapping indicates that the site is underlain by Made Ground, overlying Glacial Till deposits (thickness >30m), over Salop Formation at depth.
Hydrogeology	Glacial Till is defined as a Secondary (Undifferentiated) Aquifer, of low vulnerability. There are no active licensed groundwater abstractions within 500m of the site, and the site is not located in a Source Protection Zone.
Hydrology	A watercourse runs along the western boundary of the site. Reference to the Jubb Flood Risk Note (ref TN01-P03) indicates that the site area for development is within varying flood zones but predominantly within zone 1 for both fluvial and surface water flooding and concludes that the site is suitable for development and there is no need to consider flood risk further. The watercourse has historically been realigned and ran across the western edge of the site prior to the 1940s.
Ground Conditions Encountered	Ground conditions to the west of the building comprise a variable depth of cohesive Made Ground to depths of between 1.8m and 4.2m bgl. The Made Ground is underlain by Glacial Till deposits to at least 25m bgl, which comprises cohesive and granular deposits of variable strength. Within the boreholes, multiple groundwater strikes were encountered at variable depths throughout the glacial till deposits. Artesian groundwater strikes were frequently encountered between 20 - 25m bgl, which prevented drilling beyond this depth.

	To the east of the existing building ground conditions comprise topsoil over a thin veneer of Made Ground (to 0.4m bgl) over Glacial Till deposits.
Radon	The site is not in an area where Radon is elevated, and no radon protection measures are anticipated.
Geo-environmental Assessment	
Contamination Assessment	No exceedances were detected within the site soils, when tested against a brownfield suite of determinants and compared against Generic Assessment Criteria values adopted for Commercial/Industrial land use. No asbestos was identified within any of the samples tested. Gas risk at the site has been categorised as very low risk, requiring no special protection. No risk to controlled waters has been identified.
Contamination Risk Classification	Contamination risk at the site is deemed to be low.
Outline Mitigation Strategy	No specific mitigation measures are required at the site.
Geotechnical Assessment	
Foundations and Floor Slabs	<u>Main Extension and Plant Room</u> Given depth of made ground encountered and variable nature of the Glacial Deposits, piling is anticipated for the structure and floor slabs of these units. Outline calculations indicate CFA piles of 600mm diameter and total lengths of 24m will provide an approximate design compressive resistance of 509kN. Discussions with the structural engineers indicates that column loads in the region of 500 – 750kN are likely to be required, and therefore deeper piles may be required. It was not possible to progress the boreholes beyond 25m below ground level, due to artesian groundwater issues preventing progression, so ground conditions below this are currently unknown, but are not anticipated to get markedly worse with depth. Therefore, pile lengths in the region of 30m may be necessary to provide sufficient capacities. Further consideration of settlement will be required for deeper piles, and test piling and is likely to be required by the piling contractors to confirm settlement characteristics. Further consideration may also be given to ground improvement methods. <u>Production Extension and Blast Freezers</u> To the east of the main building, the Made Ground has been encountered to depths of 0.4m or is absent, and shallow foundations are likely to be applicable here. For the Production Extension and Blaster Freezers, pad foundations bearing into the Glacial Till deposits are expected to be suitable to carry foundation loads. A 1m square pad foundation at 1.5 m depth, bearing into the Glacial Till will achieve an allowable net bearing capacity of approximately 150kPa, which has been subject to a check on settlement (and limited to less than 25mm). Provided any minimal thickness of Made Ground is removed, then floor slabs can be ground bearing.
Excavations	Excavation works should be achievable using a standard mechanical plant with toothed buckets. No significant obstructions or buried structures were encountered.

	Deeper excavations (below 2 – 3m) may encounter groundwater (as detailed below) and dewatering should be anticipated. Temporary shallow excavations (<1m) are likely to be stable in the short term, deeper excavations (>1m) will require adequate support.
Earthworks	Proposed levels are not finalised for the project, but based on the proposed development and topography, significant earthworks are not anticipated. Based on the PSD tests carried out, the Made Ground and Glacial Till can be classified as Class 2A (wet cohesive) or Class 2B (dry cohesive fill) general fill material. Both materials would also potentially be classified as Class 7A select cohesive fill. Compaction testing indicates at natural moisture contents, compaction of around 94% could be is achieved. As such, these materials will need to undergo moisture treatment where degree of compaction requires improvement.
Buried Concrete Classification	Made Ground – DS-1 AC-1. Glacial Till – DS1 AC-1.
Pavement Design	A restricted design approach can be adopted for the site, with a preliminary design CBR value of 4**%** being considered appropriate. If or where localised soft spots are encountered with a CBR value of less than 2%, improvement works are likely to be required such as geo-grid reinforcement.
Groundwater	Shallow groundwater was not encountered in trial pits. However, boreholes encountered groundwater associated with lenses or beds of granular material within the (largely cohesive) Glacial Till, which is encountered at various depths below 2m. This groundwater could potentially lead to issues with excavations (collapse, instability, boiling sands) and dewatering should be anticipated for excavations below 2m. In several boreholes artesian (or sub-artesian) groundwater was encountered, associated with sandy lenses within the Glacial Till, and generally encountered between 20-25m bgl. Artesian groundwater is unlikely to impact shallow excavations, but further consideration will be required for pile design.
Geotechnical Risk Category	Geotechnical Category 2 – Conventional Structures.

1 Introduction

1.1 Commission

TSL Projects Ltd (TSL) are proposing the redevelopment of the existing Norish Ltd Cold Storage Facility, located at Wrexham Industrial Estate, Wrexham, Wales. The project is known as Project Sakura, and the proposals include the retention of all existing buildings, with the expansion of the main warehouse on the west of the existing structure, an office extension to the southeast, (**Appendix A**). The main warehouse development will include a new cold food store, and dock extension.

Jubb have been commissioned by TSL on behalf of SmartParc to provide a geotechnical and geo-environmental assessment of the site, combining both a Phase 1 Desk Study and a Phase 2 Interpretative Ground Investigation (GI) Report. This report provides a review of the historic desk study information (as provided by the client), general site context and historical mapping, as well as advice for the geotechnical and geo-environmental design of the development and associated ground contamination and geotechnical hazards.

This report also includes findings and results of a supplementary phase of GI works, which were scoped following the initial phase, to obtain additional information on ground strength profile for pile design.

This report was prepared to support a forthcoming planning application for the site. Jubb were requested to investigate the proposed site, as shown on Figure 1 and the proposed development plans in **Appendix A**, by Ashton Smith (*Site Location Plan TCSW-ASA-90-VS.ZZ-D-A-9020 & GA Site Plan TCSW-ASA-90-VS.ZZ-D-A-9003*, dated 15/01/2025).

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1.2 Objectives

The objectives of this assessment are:

- to assess the geo-environmental ground conditions at the site with due regard to any previous investigation, remediation and validation works undertaken as part of the site enabling works. If necessary, to provide outline recommendations for risk mitigation based on the findings;
- to analyse the intrusive ground investigation results to determine ground conditions, obtain representative values for geotechnical analysis, and identify any geotechnical issues which may affect the proposed development; and
- to make an evaluation of any potential environmental or geotechnical hazards, risks and liabilities to the planned development of the site on the basis of the foregoing studies, and to provide engineering and environmental recommendations for the site, in view of the potential development of the site.

1.3 Scope, Sources & Limitations

A specific Phase 1 Desktop Study has not previously been competed for the site, although several site investigations dating back to the 1990's was made available for review. Together with a review of the site history and site proposals, a Phase 2 Ground Investigation was scoped by Jubb, and completed by Jackson Geo Services in January 2024. As such, a brief Phase 1 Desktop Study has been provided in Section 3.0 of this report, with a review of historic reports and investigations in Section 4.0.

This report has been carried out in accordance with the following UK legislation and regulatory guidance for site investigations:

Table 1. List of Standard References

Standard Reference	Title	Publisher	Date
BRE SD 1:2005	Concrete in aggressive ground	BRE	2005
BS 10175:2011+A2:2017	Investigation of potentially contaminated sites. Code of practice. Code of practice	BSI	2017
CLR 11:2004	Model procedures for the management of land contamination – contaminated land report	EA	2004
BS EN 1997-1:2004+A1:2013	Eurocode 7. Geotechnical design. General rules	BSI	2013
NA+A1:2014 to BS EN 1997-1:2004+A1:2013	UK National Annex to Eurocode 7. Geotechnical design. General rules	BSI	2014
CIRIA C665:2007	Assessing risks posed by hazardous ground gases to buildings	CIRIA	2007
BS 8485:2015+A1:2019	Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings.	BSI	2019
CIRIA C515:2000	Groundwater Control – Design and practice	CIRIA	2000
BRE 211:2015	Radon: Guidance on protective measures for new buildings	BRE	2015
BS EN ISO 22475-1:2006	Geotechnical investigation and testing. Sampling methods and groundwater measurements. Technical principles for execution	BSI	2006
BS 1377-1:2016	Methods of test for soils for civil engineering purposes. General requirements and sample preparation	BSI	2016
BS 1377-3:2018	Methods of test for soils for civil engineering purposes. Chemical and electro-chemical testing	BSI	2018
BS 1377-4:1990	Methods of test for soils for civil engineering purposes. Compaction-related tests	BSI	1990
BS 5930:2015	Code of practice for ground investigations.	BSI	2015
BS EN ISO 14688-1:2018	Geotechnical investigation and testing. Identification and classification of soil. Identification and description	BSI	2018
BS EN ISO 14688-2:2018	Geotechnical investigation and testing. Identification and classification of soil. Principles for a classification	BSI	2018
BS EN 1997-2:2007	Eurocode 7. Geotechnical design. Ground investigation and testing	BSI	2007
NA to BS EN 1997-2:2007	UK National Annex to Eurocode 7. Geotechnical design. Ground investigation and testing	BSI	2007
BS EN ISO 17892-1:2014	Geotechnical investigation and testing. Laboratory testing of soil. Determination of water content	BSI	2014
BS EN ISO 17892-2:2014	Geotechnical investigation and testing. Laboratory testing of soil. Determination of bulk density	BSI	2014
BS EN ISO 17892-3:2015	Geotechnical investigation and testing. Laboratory testing of soil. Determination of particle density	BSI	2015
BS EN ISO 17892-4:2016	Geotechnical investigation and testing. Laboratory testing of soil. Determination of particle size distribution	BSI	2016
BS EN ISO 17892-8:2018	Geotechnical investigation and testing. Laboratory testing of soil. Unconsolidated undrained triaxial test	BSI	2018
BS EN ISO 17892-12:2018	Geotechnical investigation and testing. Laboratory testing of soil. Determination of liquid and plastic limits	BSI	2018
BS EN ISO 18674-1:2015	Geotechnical investigation and testing. Geotechnical monitoring by field instrumentation. General rules	BSI	2015

It should be noted that any ground investigation provides only a small sampling of any site and that ground conditions may differ both laterally (across the site) and vertically (with depth) between sample points. Such differing conditions may thus remain undetected by fieldwork. Certain areas may not have been accessible to intrusive survey due to vegetation, live services or other obstructions.

2 Site Setting

2.1 Site Location

The site is located approximately 4.0km east of Wrexham, Wales, located centrally within Wrexham Industrial Estate. The site is situated off Ash Road South, with the post code LL13 9UG.

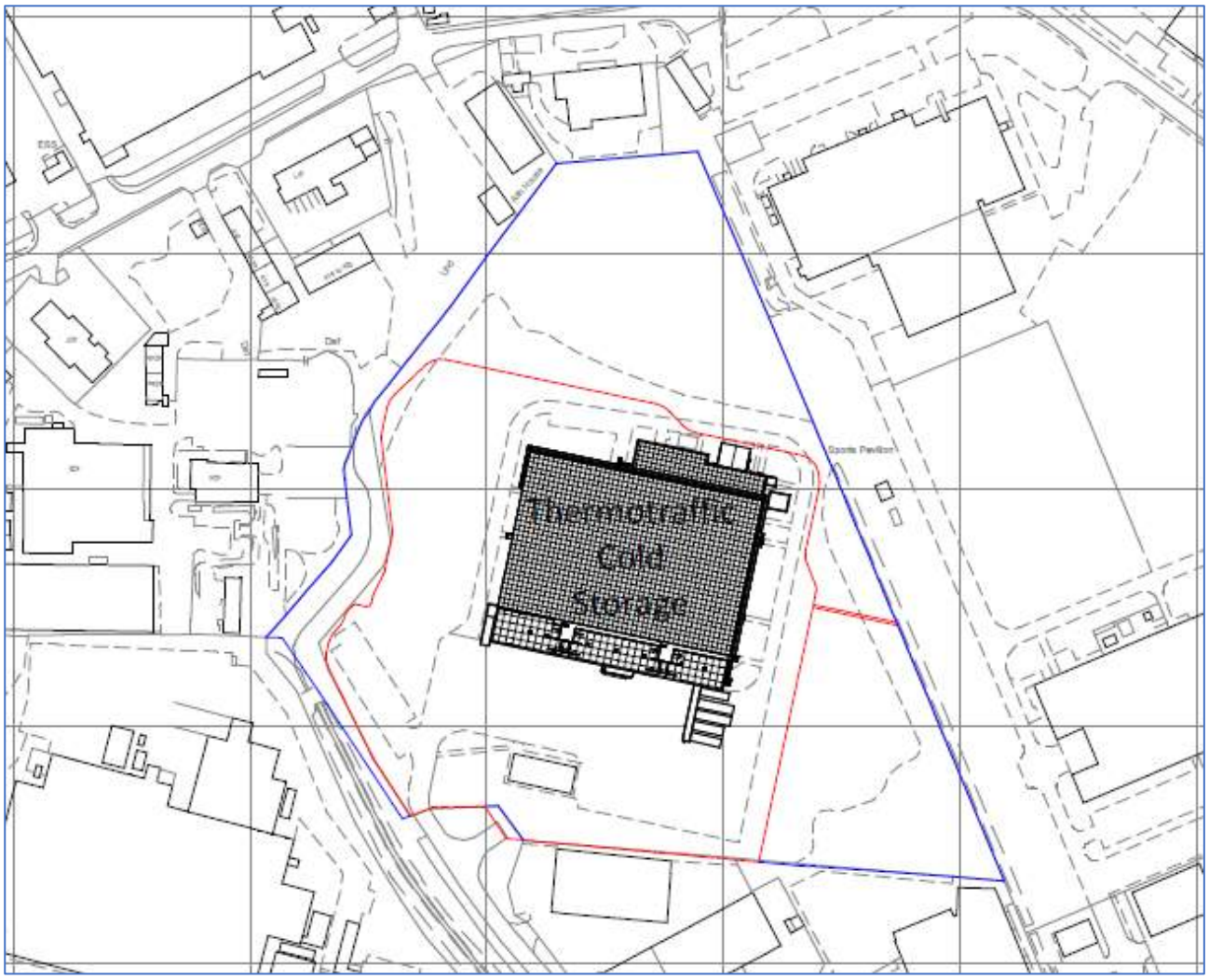


Figure 1: Existing Site Location Plan (from Ashton Smith drawing TCSW-ASA-90-VS.ZZ-D-A-9000 (S2 – P07)) showing red line and ownership boundaries

The Ordnance Survey (Landranger) grid reference at the centre of the site as SJ 380 503.

A site location plan and aerial image are provided in **Appendix A,** as produced by Ashton Smith (*Site Location Plan TCSW-ASA-90-VS.ZZ-D-A-9001 & External Site Image TCSW-ASA-90-VS.ZZ-D-A-9000*, dated 15/01/2024).

2.2 Site Description

The site is irregular in shape, with an overall site area of 5.69Ha, and an application site area (red line boundary) of 3.26Ha. The site is generally flat with a slight fall to the southwest, from approximately 32.5m in the north, to 30.5m AOD in the southwest. A raised embankment is recorded to the north of the existing building up to levels of approximately 39m AOD. The surrounding area is found at similar levels to those of site.

The site comprises an existing cold store warehouse structure, workshops and plantroom, with loading bays and hardstanding to the south of the main building and soft landscaping surrounding this. A separate office building is located in the south of the site, and a small car parking area is situated adjacent to the site entrance on the western side of the site. Two ammonia tanks are located on the northeastern aspect of the existing building.

2.3 Site Proposals

Site proposals are for the existing buildings on site to be retained, and a New Cold Store to be constructed on the western elevation of the existing structure, with an engineering plant building in the north and an associated dock extension in the south. Further to the south an area of new car parking is proposed.

Drainage proposals are for roof and surface water to be collected in an attenuation storage system below the car park, and discharged via a restricting hydrobrake to the offsite watercourse. Several linear storage basins will also be used to manage runoff from roadways.

A new production building is also proposed on the southeast corner of the existing building.

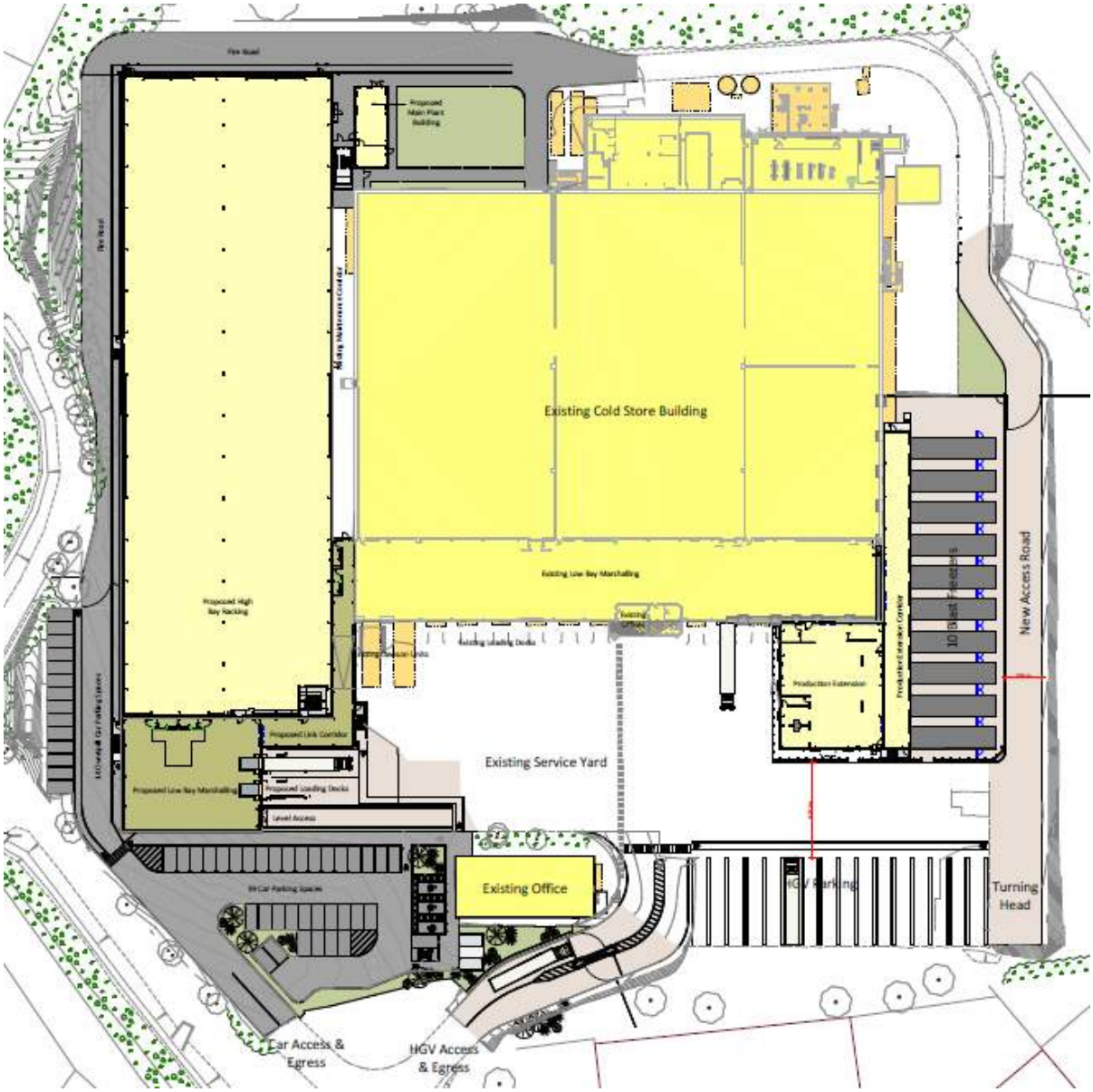


Figure 2: Proposed General Arrangement Plan (from Ashton Smith drawing, GA Site Plan, TCSW-ASA-90-VS.ZZ-D-A-9003 S2 P15)

Site proposal plans are included in **Appendix A**.

3 Desk Study

The following section provides Phase 1 Desk Study information for the site, including information as provided within an Envirocheck Report (contained in **Appendix B**) obtained by Jubb on behalf of TSL.

3.1 Site History

The site history has been assessed by a study of historic Ordnance Survey Maps dating back to 1873 as supplied in an Envirocheck Report and supplemented by Google aerial imagery. The historical maps obtained from these sources, whilst considered to be comprehensive, may not represent all the historical maps possibly published for the site.

Table 2: Site History

Date	Scale	Onsite	Offsite
1873 1879	1:2,500 1:10,560	The site comprised open fields, split centrally east to west (through southern area of the existing building) by a hedgerow and footpath.	The surrounding area was rural, comprising open fields split by hedgerows, a stream and (man-made) channel immediately southwest of the site. A number of ponds (typically 10-20m²) were present within 250m of the site, some located within the wider site area under areas not proposed to be developed. Cacca Dutton farm is located to the southeast of the site
1911 1938	1:2,250 1:10,560	No change	No significant change
1954	1:10,560	Site is being developed as part of ROF Wrexham by this time, with the hedgerow had been removed and a number of tracks were shown to cover the site area.	Surrounding area being developed (as part of Wrexham ROF), with numerous engineering 'works' and units present, none within 250m of the site with the exception of some structures west of the culvert stream. Construction of a tram/ rail line to the west, north and east of the site, approximately 250m away.
1961	1:2,500	Development of the site area (as part of the ROF Wrexham) comprising a number of bunded munitions stores, recorded amongst scrub land. 2 no. small structures (sheds) were present (now under the existing building).	The majority of the surrounding ponds were no longer records and numerous bunded munitions stores are present in the surrounding area, to the north and south of the site. Further development of the Wrexham Industrial Estate with numerous works in all directions. Reconfiguration of the natural watercourse to the west, tributary straightened out and likely culverted or channelled.
1983	1:2,500	Munitions stores remain on site.	Continued expansion and reconfiguration of the wider area. Tram/ rail line no longer recorded.
1988	1:2,500	Munitions stores no longer present, area cleared of all development.	Continued expansion and reconfiguration of the wider area.
1995	1:2,500	Site remained disused until 1995, when the building as seen at present day was shown. No reconfigurations to present day.	Continued expansion and reconfiguration of the wider industrial estate. Further reconfiguration of the watercourse channel to the west.
2023	1:10,000	No significant change	Continued expansion and reconfiguration of the wider industrial estate.

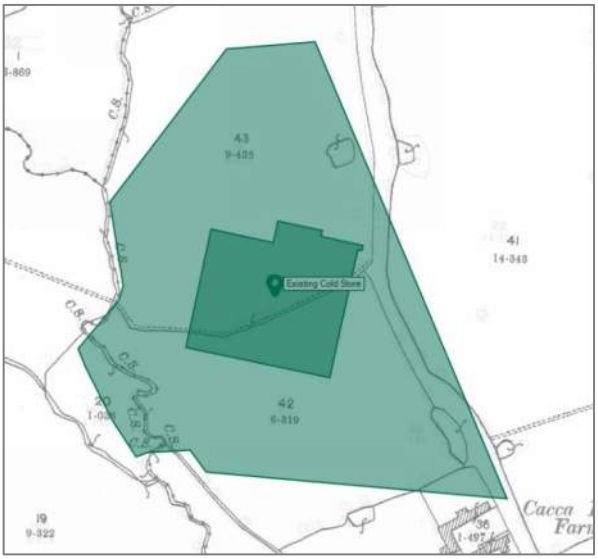


Figure 3: OS Mapping 1899

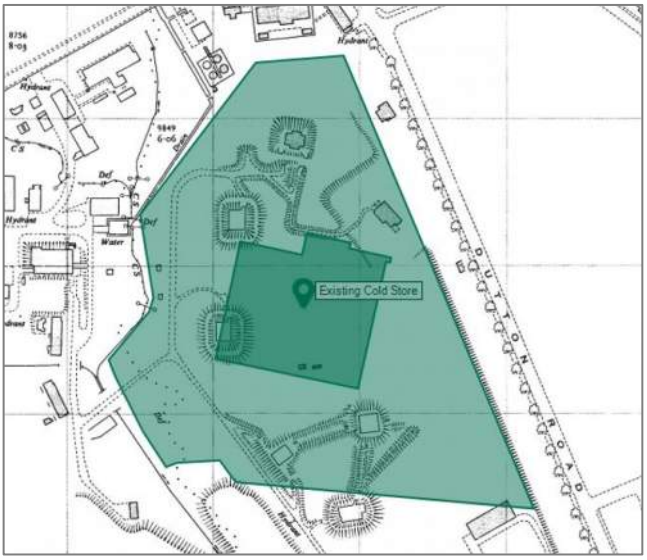


Figure 4: OS Mapping 1964

The site originally comprised open fields split centrally with a hedgerow and footpath (pre-1900), two ponds were present on the site, and a stream ran across the western edge of the site.

The site remained unchanged until the 1940s, when Wrexham ROF was constructed, with various structures present in the site area. At this time the stream was artificially straightened and realigned off site, and the surrounding ponds disappeared (we assume these were infilled).

Online sources indicate that the wider area was occupied by Royal Ordnance Factory (ROF) Wrexham, which was constructed shortly after the start of WWII. The factory was responsible for the production of cordite, an explosive propellant for munition shells. The bunded store buildings noted on the subject site are likely to have been used to store explosives. A previous report (*Richards Moorehead & Laing Ltd 1993 – reviewed in Section 4.0*) indicated that former foundations of onsite structures were fully removed during redevelopment and earthworks in the 1980's.

After the 1980's the site remained undeveloped until 1995 when the existing building was constructed, which appears unchanged until present day.

The surrounding area has experienced ongoing alterations following the original development of the ROF, a tram or railway line was used briefly around the 1960's. Onsite development was only recorded as bunded munitions stores and some small sheds between around 1950 – 1990.

3.2 Geology and Ground Conditions

The BGS Geology of Britain viewer identifies the site to be underlain by the Salop Formation (Mudstone, Sandstone And Conglomerate) described as red/brown mudstones and sandstones containing beds of pebbly sandstone and conglomerate containing Carboniferous limestone and chert clasts, with thin limestone beds.

Superficial deposits of Glacial Till (Devensian – Diamicton) are recorded as overlying the bedrock, comprising soft to stiff clays, silts and sands.

BGS mapping also indicates Made Ground across the whole extent of the site.

Numerous BGS borehole records are located within 250m from the site typically indicating significant thicknesses (>30m) of overlying superficial deposit soils, generally comprising variable soils, from soft to very stiff clays, silts and sands, ranging in thicknesses from under 1m to over 5m.

3.3 Natural Soil Chemistry

Information contained within the Envirocheck report (**Appendix B**) provides indicative concentration values for the natural soils at the site for a selection of contaminants of potential concern. These are listed below. Note, values have been cross checked with the BGS Geoindex and edited where discrepancies were identified.

- Arsenic - <15mg/kg
- Cadmium - <1.8mg/kg
- Chromium – 60-90mg/kg
- Lead - <100mg/kg (UKSO – 66kg/kg)
- Nickel – 15-30mg/kg

None of the above predicted natural metal concentrations are at levels of concern.

3.4 Hydrogeology

The superficial Glacial Till deposits beneath the site are classed as a Secondary (undifferentiated) aquifer, whereas the solid geology Salop Formation is designated as Secondary (A) aquifer, based on the Environment Agency's interactive aquifer designation map.

Secondary aquifers are defined as providing modest amounts of water, but the nature of the rock or the aquifer's structure limits their use. They support water supplies at a local rather than strategic scale (such as for private supplies) and remain important for rivers, wetlands and lakes. They have a wide range of water permeability and storage.

The EA describes the vulnerability of the aquifers in terms of high medium and low risk. The superficial Till Deposits beneath the site are classed as Low groundwater vulnerability, whereas the solid geology is classified as High groundwater vulnerability.

High vulnerability soils and rock are those 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. Low vulnerability soils and rock are those that provide the greatest protection to groundwater from pollution. They are likely to be characterised by low leaching soils and/or the presence of superficial deposits characterised by a low permeability.

There are no active licensed groundwater abstractions within 500m of the site.

The site is not within a groundwater Source Protection Zone (SPZ). However a Total Catchment (Zone 3) is located approximately 100m to the northwest, associated with the principle aquifer of the Kinnerton Sandstone Formation.

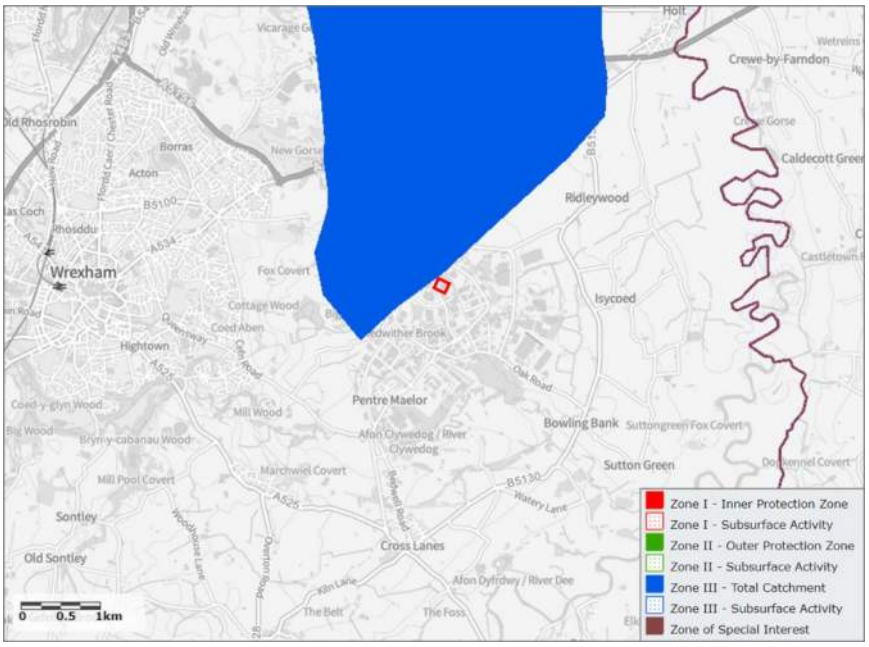


Figure 5: SPZ (Site location in red)

The Envirocheck report indicates a potential for groundwater flooding to occur at surface at the site. However, we typically consider that the groundwater will consummate with the adjacent watercourse, and in reality, the risk of groundwater flooding is likely to be low.

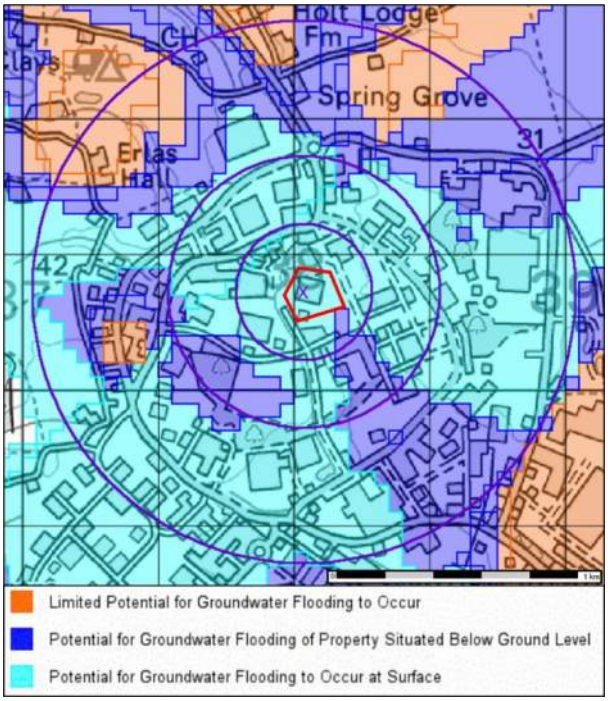


Figure 6: BGS Groundwater Flooding Susceptibility Map (Site location in red)

3.5 Hydrology

Offsite, approximately 10m from the sites south southeastern boundary is a man-made drainage channel which follows runs south through the wide industrial estate to a pond approximately 500m south of the site, this then feeds into the Redwither Brook, and later into the River Clywedog some 1.5km south of the site.

The man-made channel adjacent to the site was constructed sometime in the 1960's, replacing a natural stream flowing through the area, and the pond to the south in the 1980's.

No. water abstractions are recorded within 500m of the site, both relating to the same location, 250m to the northwest (upstream) for the abstraction of water from a tributary of the Redwither Brook for Metal cooling processes (non-evaporative).

3.6 Natural Ground Instability

The Envirocheck report has not identified any natural instability risks associated with the site (above Very Low risk).

However, due to the significant thickness of Glacial Till deposits covering the site, the typical variability of these soils comprises the primary natural ground instability risk to development. Large thicknesses of interbedded clays and sands are likely. Therefore, some compressible clays may be present at the site, and shallow running sands may be present affected by the elevated groundwater.

3.7 Mining and Mineral Extraction

The Envirocheck report indicates the site is within an area effected affected by mining activity, and whilst it recommends that a coal mining report is obtained for the site, this is not considered necessary.

Due to the significant depth to coal bearing strata and as there are no recorded coal mine entries within the site, or within the surrounding area (<5km), coal mining activity is not expected to impact the sites development proposals. Additionally, the site is not located within a Development High Risk Area, as indicated by Coal Authority online mapping.

Therefore, coal mining risk is not considered further within this report.

There are no BGS Recorded Mineral Sites recorded within 1km of the site.

3.8 Regulatory Information

There is 1 no. discharge consent within 250m of the site, approximately 240m to the west, of unknown effluent type, into an unnamed tributary of the Redwither Brook, the consent is now expired and was active from 1968 – 1991. The closest active discharge consent refers to “Miscellaneous Discharges – Surface Water” some 300m to the northwest discharging into a culverted section of a tributary of the Redwither Brook (upslope of site). Several other expired or revoked consents are also recorded within 500m of the site.

2 no. effective integrated pollution prevention and control records are located within 250m of the site, located approximately 220m to the southwest relating to the disposal of non-hazardous waste at a food processing facility. 2 no. local authority pollution prevention and control records are located within 250m of the site, approximately 200m to the northeast referring to surface cleaning and di-isocyanate processes (known to be manufactured in the production of polyurethanes/ polymers).

A single pollution incident to controlled waters event is recorded within 250m of the site, 230m to the north, relating to the pollution of a septic tank, and categorised as a Minor (Category 3) incident, dated May 1996. A number of other minor incidents are recorded within 500m, with an additional Significant (Category 2) incident located 300m to the northwest relating to a crude sewage spillage in August 1991.

A single licensed waste management facility is recorded within 500m of the site, located 200m to the northeast and recorded as a Physical Treatment Facility, this facility remains active.

A number of potentially infilled land (water) records are recorded within 250m of the site, referring to suspected historic water bodies. These records refer to features in all directions from site, the nearest being within 100m to the northeast. These relate to the historic ponds recorded nearby which were potentially infilled or drained sometime in the 1950’s.

There are 30 no. contemporary trade directory entries records within 250m of the site, as typical from a site located within an industrial estate. Many records are inactive, although the nearest active records refer to a road haulage services and an aggregates site 200m to the northwest.

None or the above records are expected to impact the site proposals, as no change of use is proposed we would not expect any requirement to assess ground contamination issues.

3.9 Environmental Designations

There are 2 no. records of restored ancient woodland, referring to a single site, Erlas Black Wood, located approximately 350m to the southwest.

3.10 Radon Risks

The radon risk is reported in the Envirocheck report and by reference to the Indicative Atlas of Radon in England and Wales and Annex A maps in BR 211. The guidance indicates that the site is not in a Radon Affected Area, with <1% of homes are above the action level, and no radon protection measures are required.

3.11 Unexploded Ordinance (UXO) Risk

A preliminary assessment of the site risks of UXO has been undertaken using freely available maps from Zetica UXO indicate the site to be located within a low-risk area (bombing density of 15 bombs per 1000 acres or less). The figure below presents the Zetica mapping.

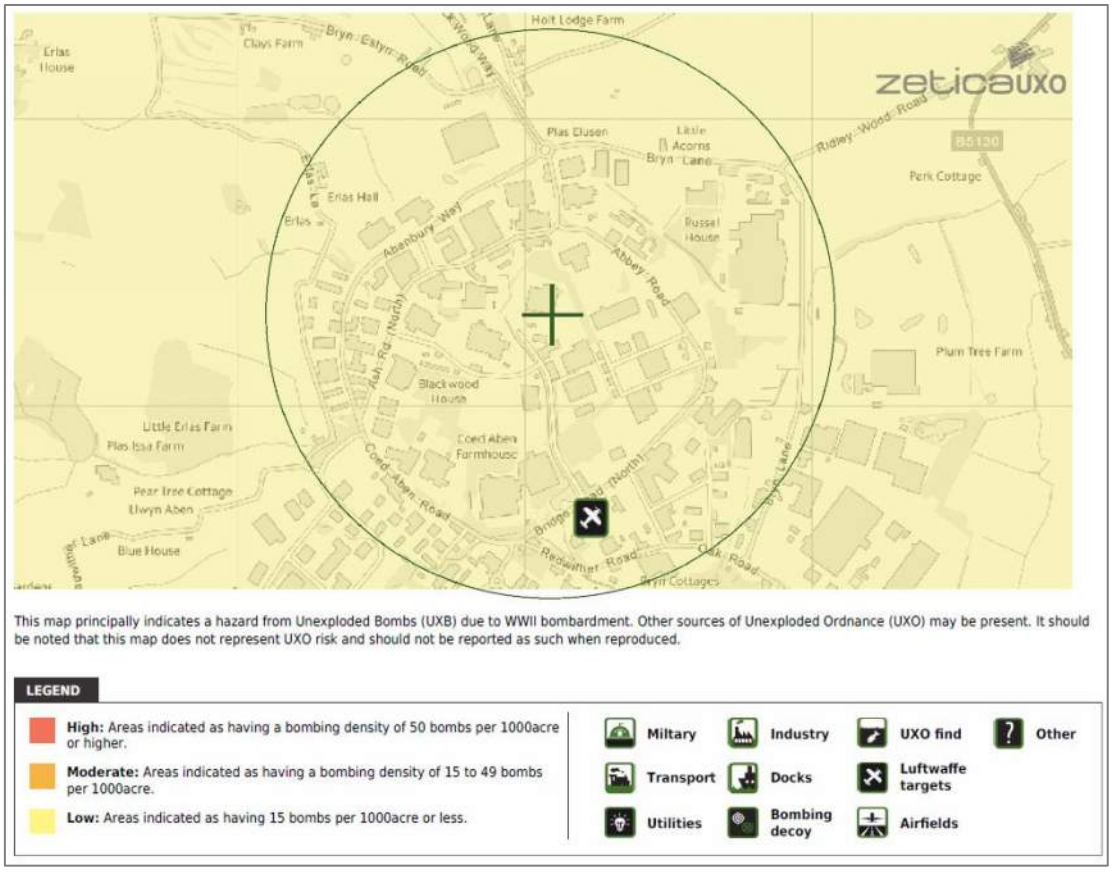


Figure 7: Zetica UXO Risk Mapping

Although the site has historically comprised a munitions factory, as it is recorded to be decommissioned and former foundations fully removed, therefore further UXO considerations are not necessary.

4 Review of Previous Report

A number of historic reports have been made available for review by the client, and all refer to investigation works undertaken ahead of the original construction of the existing building on the site, these are as follows:

- Richards Moorehead & Laing Ltd, Proposed Food Processing Plant Ash Road South Wrexham Industrial Estate Wrexham, **Report on the Borehole and Trial Pit Investigation**, Ref DP/EH/1100/569, November 1993.
- Richards Moorehead & Laing Ltd, **Report on the Site Investigation to Determine Contamination Status** Proposed Food Processing Plant Ash Road South Wrexham Industrial Estate Wrexham, Ref BG/EH/1100/586, March 1994.
- Exploration Associates, Norish Site, Ash Road, Wrexham, **Factual Report on Ground Investigation**, Ref 124112, dated August 1994.

These are reviewed below.

4.1 Richards Moorehead & Laing Ltd 1993

This report summarised the findings of a site investigation undertaken in October 1993, where 3 no. boreholes and 12 no. trial pits were carried out beneath the site area, these boreholes were undertaken to maximum depths of 6.5m bgl.

The report identified the Royal Ordnance Factory that occupied the wider site area, and referred to a number of historic structures on the site, and their removal in the 1980's, which comprised the grubbing out of foundations (which were up to 3m deep). These earthworks generated the soils currently forming the embankment to the north of the site. The voids were back filled with natural clay soils and a layer of topsoil placed at surface, the site area was also levelled at this time. The report identified 2 no. drainage ditches up to 1.5m deep on/ around site although their location is not clear from review of historic mapping.

The approximate location of the former ROF structures in relation to the existing development is shown on plan below.

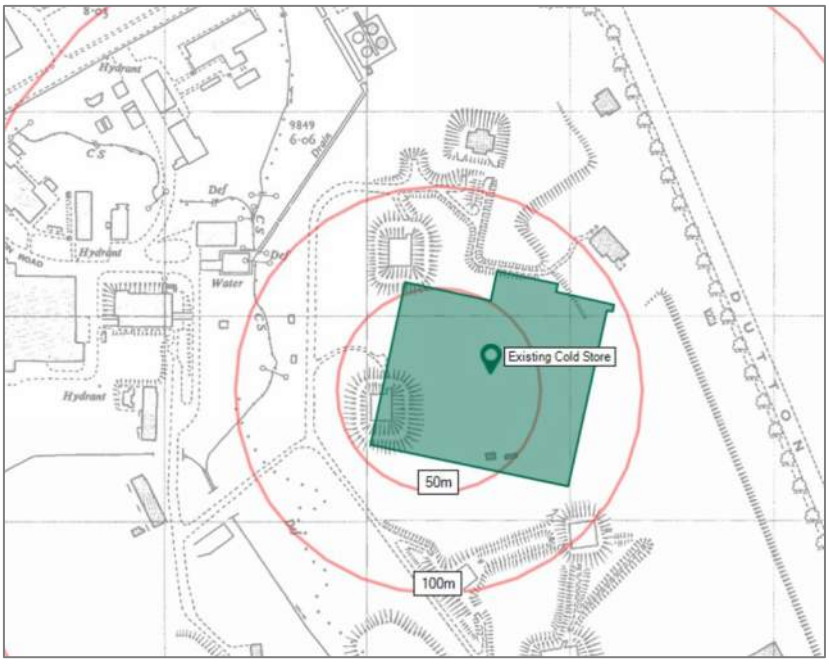


Figure 8: Existing Building in Relation to Former ROF Structures (grubbed out)

The exploratory hole locations identified approximately 200mm of placed topsoil, with up to 2.5m of Made Ground (derived from superficial soils), in the west, reducing to <0.5m bgl in the east, as a "*brown silty clay fill*". The natural material below is summarised as "*brown silty clay with streaks of grey silt*", generally firm or stiff with occasional softer lenses. No sand was logged within the investigation.

Plasticity tests undertaken on samples collected from the investigation indicated medium volume change potential of the natural clays with uniform moisture contents (typically 20-25%). The sulphate content was identified as low. Groundwater was encountered in a single borehole at 4.5mbgl, as seepage, and trial pit excavations were noted as stable.

The report concluded conventional pad and strip footings would be suitable for the proposed development, with allowable ground bearing pressures of 200kN/m² for pad and 150kN/m² strip footings, respectively. A ground bearing floor slab founded below topsoil layer was recommended.

4.2 Richards Moorehead & Laing Ltd 1994

This report addresses the contamination status of the site and includes the review of 20 no. additional trial pit excavations across the site area to depths of between 3-4m bgl, in March 1994. A number of soil samples were collected for environmental testing.

In this report Made Ground fill was identified in thicknesses of 1.2m bgl in the west, and 0.2m bgl in the east, as a (soft to) firm clay. The underlying natural strata is recorded as a "firm to stiff natural brown clay some of which contains streaks of grey silt", these corroborate with the findings of the previous phase of ground investigation works in 1993.

The conclusions of the contamination results indicated low risk to the proposed development. Total sulphur concentrations indicated an elevated concrete class may be required. Elevated heavy metals (above then current ICRCL trigger values) were encountered in several locations in the west of the site (principally TP21 – 23).

Controlled water mitigation measures were recommended due to isolated metal elevations in TP21, TP22 and TP23 (located to the western side of the current site), with the redirecting of the stream away from this area. It was recommended that the pathway between the fill and the stream be blocked, with suitable measures including the importing and placement of clean clay to act as an impermeable barrier.

Some contamination assessment of the mounded area to the north was undertaken, which did not indicate any significant contamination in that area.

4.3 Exploration Associates 1994

This report detailed the findings of an additional phase of investigation work, comprising hand penetrometers tests, in-situ CBR tests, and Plate Load tests.

55 no. hand penetrometer tests where undertaken in a grid formation below the proposed building area from the "base of excavations", these excavations are of unknown depth, but are presumed to be at foundation levels (<2m bgl). The results indicated Cu values within the clays ranging from 120 – 490kN/m², typically greater than 250 kN/m².

4 no. in-situ CBR tests were undertaken across the site indicating CBR values of between 2.5-4.0%, all within firm to very stiff red brown mottled grey, slightly sandy silty clay, with occasional fine gravel.

Results of the 8 no. plate load tests indicated maximum settlements of 1.81mm with 25kN loads.

4.4 Review of Data and Use in Current Assessment

While the above reports are generally considered to provide an accurate picture of the site at the time of reporting, many of the test results upon which the reporting is based are either missing from the Appendices, or the copies are not of high quality. In particular, it is not clear where particular chemical and geotechnical tests have been undertaken from on the site, and therefore it has not been possible to fully reappraise this information in the context of the proposed development. Information on general ground conditions and historical background data have been incorporated into this report where necessary.

5 Preliminary Conceptual Site Model

5.1 Preliminary Risk Assessment (Contamination)

The following section provides a Preliminary Risk Assessment (PRA) of contamination at the site and develops an initial Conceptual Site Model (CSM) to establish whether there are any potentially unacceptable risks associated with proposed development at the site.

The CSM provides a method to characterise potential site risks, by outlining potential sources of contamination, identifying potential receptors that may be impacted, and determining potential pathways by which sources may affect receptors.

A preliminary CSM has been derived from an assessment of the sites' environmental setting, site history, and review of previous reports.

The Risk Assessment Methodology and Definitions are set out in **Appendix C** to this report.

5.2 Potential Sources of Contamination

The potential contaminants described below have been identified from a study of the site history. The principal contaminative sources are as follows:

On-site and Off-site

- Made Ground, associated with the former raising of site levels (earthworks), reworked natural deposits likely containing anthropogenic material, possibly including elevated concentrations of metals, metalloids, asbestos fibres, Asbestos Containing Materials, PAH and petroleum hydrocarbons.
- Contamination associated with munitions storage, possibly including organic solvents/compounds, inorganic compounds, heavy metals and metal compounds (i.e. lead), sulphur, and asbestos.
- Hydrocarbon fuels and lubricants from the operation of heavy vehicles and from car parking areas, including; Petroleum Hydrocarbons, Poly-Aromatic Hydrocarbons.
- Ground gases (carbon dioxide and methane) from organic materials in the Made Ground, potentially containing organic alluvium deposits.

5.3 Potential Receptors

The following potential receptors have been identified, based on the proposed development of the site for commercial purposes:

- People (neighbours, site end users);
- Groundwater (secondary aquifer);
- Building materials; and
- Surface Waters – manmade stream/ channel to the southwest of the site (tributary of the Redwither Brook).

5.4 Potential Pathways

- Ingestion, skin contact, inhalation of dust and outdoor air by people.
- Methane ingress via permeable soils and/or construction gaps.
- Root uptake by plant.
- Migration of contaminant via leachate migration through the unsaturated zone in the shallow soils.
- Surface water via overland flow or drainage discharge.

5.5 Preliminary Conceptual Site Model (CSM)

The potential key contaminative substances, potential receptors and possible pathways as identified by the Jubb Phase 1 report are summarised in the table below, assuming a worst-case scenario.

The preliminary CSM will be used to target any further site investigation and will be developed and refined, based on the results of the site investigation.

Table 3: Preliminary Conceptual Site Model

Preliminary Conceptual Site Model						
Sources	**Receptor**	**Pathway**	**Consequence**	**Probability**	**Risk**	**Recommended Action (to clarify level of risk and assess suitable mitigation measures or to mitigate the risk)**
Made Ground (Earthworks) – possibly including elevated concentrations of metals, metalloids, asbestos fibres or ACM, PAH and petroleum hydrocarbons.	People (neighbours, site end users)	Ingestion Inhalation Direct Contact	Mild	Low likelihood	Low risk	Site Investigation will be required to determine contamination potential of site soils within Made Ground used to raise site levels, potentially containing wastes generated from construction. Previous investigations have identified the potential for elevated metals on site. Previous investigation works did not identify any asbestos fibres or ACM within the Made Ground soils. Future mitigation measures to protect human health may be required depending upon results (capping, soil treatment, etc.). Use of suitable PPE and good hygiene practice on the site to mitigate risk.
	Surface water / groundwater	Percolation/ leaching/ overland flow	Mild	Low likelihood	Low risk	Previous measures understood to have taken place (1990's), including the redirection of the nearby stream (off-site), as the stream formerly ran through Made Ground soils comprising elevated heavy metal concentrations. Potential for shallow groundwater on site with onsite, with the potential for artesian water, as indicted by nearby archived BGS borehole records.
Contamination associated with former munitions storage – possibly including organic solvents/compounds, inorganic compounds, heavy metals and metal compounds (i.e. lead), sulphur, and asbestos fibres or ACM	People (neighbours, site end users)	Ingestion Inhalation Direct Contact	Mild	Low likelihood	Low risk	Site Investigation will be required to determine contamination potential of site soils, particularly surrounding the former munitions stores, although earthwork activity may have spread contaminated soils elsewhere on site. All munitions store foundations (and construction material) are understood to have been removed. Future mitigation measures to protect human health may be required depending upon results (capping, soil treatment, etc). Use of suitable PPE and good hygiene practice on the site to mitigate risk.
	Surface and Groundwater	Percolation and leaching to groundwater;	Mild	Low likelihood	Low risk	As per: *Made Ground (Earthworks) – Surface water/ groundwater risks*
Hydrocarbon fuels and lubricants – from heavy vehicles and car parking	People (neighbours, site end users)	Ingestion Direct Contact	Medium	Unlikely	Low risk	Minimal reconfiguration of structures is recorded since the redevelopment of the land in the 1990's, contamination from spillages/ leaks and repair work of vehicles and HGVs cannot be ruled out. Site Investigation will be required to determine contamination potential of shallow site soils. However, much of the hard standing on site is understood to remain with the replacement of the personnel vehicle car park in the southwest for a proposed building (no new soft landscaping). The use of suitable PPE and good hygiene practice on the site to mitigate risk.
Ground Gases	Future Site Users	Inhalation	Medium	Low likelihood	Low risk	From a review of previous investigation, no anthropogenic sources of ground gas are expected at this stage. Organic alluvial deposits, potentially as reworked Made Ground cannot yet be ruled out.

6. Ground Investigation Works

6.1 General

An initial ground investigation (GI) was undertaken by Jackson Geo Services Ltd, which was planned and scoped by Jubb following a review of the desk study searches and information, to provide preliminary geotechnical and geo-environmental information. The GI comprised the following site activities;

- 2 no. cable percussive boreholes (BH101 – BH102) advanced to a maximum depth of 25.0m. Each borehole was installed with 50mm standpipe to a depth of 5mbgl upon completion to monitor gas and groundwater;
- 2 no. hand dug foundations inspection pits (HP101 – HP102), undertaken along the western side of the existing building;
- 6 no. trial pits to a maximum depth of 3.4m bgl (TP101 – TP105 and TP101A);
- 1 no. soakaway test within TP101A;
- 6no. TRL Dynamic Cone Penetrometer (DCP) tests were undertaken across the site to correlate the CBR value of the subsoil.
- 2 no. hand dug pits (HP103 -104) to collect sampling for environmental testing purposes (*instructed direct from TSL*)

These site works were completed between 15th to 19th January 2024. The siteworks were supervised by a Jackson Geo Services engineer, and a site visit was carried out by a Jubb engineer on the 17th January 2024.

A supplementary GI was undertaken by Terra Firma Wales Group Ltd which was planned and scoped by the Clients advising Piling Specialist (and managed by Jubb), following a review of the initial GI findings and in order to provide further information on ground strength and ground conditions.

The supplementary GI comprised the following site activities;

- 5 no. cable percussive boreholes (BH201 – BH205) advanced to various depths up to 25.0m bgl.
- 4 no. hand dug foundations inspection pits (HP201 – HP204), undertaken at corners of the existing building.

The exploratory holes were set out at locations provided by the Client and Jubb and adjusted where necessary to take account of site constraints. Locations were set out by a surveyor prior to holes being undertaken.

An exploratory hole plan showing all GI locations is provided in **Appendix D.**

Exploratory hole logs are contained in **Appendix C.**

6.2 Cable Percussive Boreholes

2 no. cable percussive boreholes (BH101 – BH102) were carried out by Jackson Geo Services between the dates of 15th and 19th January 2024 to a depth of between 25m and 20mbgl, respectively. All holes were carried out using a Cable Percussion drilling rig sub-contracted by Lundy Site Investigation Ltd. These boreholes were positioned to target the soils at depth beneath the proposed structure and to allow for pile design if required.

Groundwater and gas monitoring standpipes were installed in both these initial boreholes to maximum depths of 5m depth upon completion to allow for groundwater and gas monitoring.

Due to time constraints encountered during drilling, BH102 was terminated at 20m bgl, rather than the planned 25m bgl. The final depth was considered acceptable.

The supplementary phase of GI included an additional 5 no. cable percussive boreholes. Although the scope comprised no. 2 boreholes to 30m bgl, no. 2 to 25m bgl and no. 1 to 7.5m bgl, significant difficulties progressing the boreholes past 25m bgl were encountered in each of the boreholes, which prevented the planned depths being reached. Restricting

factors were related to the artesian groundwater and the inability to successfully drive the boreholes deeper than 25m without collapse of the hole and ingress of silt into the base of the borehole.

Whilst progressing the boreholes through superficial soils, casing was driven to the base of each borehole to keep the borehole open and mitigate issues relating to collapse and groundwater ingress.

Standard Penetration Testing (SPT) and U100 sample tests were carried out at 1.0/1.5m intervals throughout the run of the boreholes with disturbed and undisturbed samples taken at regular intervals.

6.3 Trial Pits

A total of 6 no. trial pits (TP101-TP105, and TP101A) were carried out around the site to achieve maximum coverage at proposed development areas. Trial pits were carries out to varying depths, up to a maximum depth of 3.5m in TP104.

Excavations were completed using a JCB 3CX excavator. Disturbed bulk geotechnical and environmental soil samples were taken at regular intervals throughout excavation works. After detailed examination, measurement and sampling, the excavations were backfilled with arisings and compacted in layers using the machines bucket to match pre-existing conditions as best as practically possible.

TP101 and TP101 were terminated shy of target depths due to concrete culverts being encountered at 1.80m and 2.2m respectfully. TP103 was terminated shy of target depths due to the encountering of a water main at a depth of 0.7m bgl. No damage of these buried services was noted. TP105 was terminated shy of target depths due to the encountering of a metal wire/ cable at 1.8m bgl, presumed to be redundant and/ or as historic anthropogenic debris. All trial pit locations were photographed and backfilled upon completion, as per the other trial pit locations.

Environmental samples were taken within the topsoil, Made Ground, and Glacial Deposit, and bulk samples were taken at regular intervals throughout each trial pit.

The residual soils and Made Ground soils, where found to be cohesive, with a varying granular component, and in-situ Hand Shear Vane (HSV) testing was carried out in each stratum.

Soakaway testing was carried out within TP101A, the pit was filled to a depth of 0.8m bgl, although no water level change was noted over the test period and therefore a soil infiltration rate could not be calculated.

6.4 Hand Dug Trial Pits

A total of 4 no. hand dug trial pits (HP101 – HP104) were excavated using conventional hand tools.

HP101 – HP102 were excavated along the existing cold store buildings western boundary where proposals involve the joining of new structure with that of the existing structure, these targeted the existing buildings foundations to determine the buildings foundation type. Neither pit encountered a foundation pad or pile cap, and therefore only provided information of the buildings ground beam. Environmental samples were taken from each location.

HP103 – 104 were instructed directly from the client, for the collection of samples for environmental testing purposes, these targeted soils of the raised embankment to the north of the proposed development. Visually, these inspection pits indicated the embankment comprised similar soils as those covering the site as Made Ground, using to raise site levels, and therefore likely represent excess soils generated elsewhere in the business park not required for the 1980's earthworks activity on the site.

The supplementary phase of GI included an additional 4 no. hand dug trial pits (HP201 – HP204), these were excavated using conventional hand tools, to better understand the existing building construction.

6.5 TLR Dynamic Cone Penetrometer (DCP) testing

A total of 6 no. TLR Dynamic Cone Penetrometer (DCP) tests were undertaken across the site, within areas of proposed hardstanding / carparking, primarily comprising areas in the southwest, and around the site boundary in the western area. These tests were performed from ground level and were carried out to maximum depths of approximately 0.9mbgl to obtain an equivalent California Bearing Ratio (CBR) value of the shallow subsurface for pavement design.

A review of the exploratory hole logs indicates that TRL101 – TRL105 were undertaken through Made Ground soils, whereas TRL106 (below 0.3m bgl) represents natural glacial deposit soils.

TRL DCP logs are contained in **Appendix E**.

6.6 Soakaway Testing

A single soakaway test was undertaken in TP101, and results are contained in **Appendix E**.

6.7 Groundwater and Ground Gas Monitoring

Three return visits were made to monitor groundwater levels and undertaken gas monitoring, on 26/01/24, 02/02/24 and 12/02/24. The results are containing in **Appendix E**.

6.8 Exploration Sampling Strategy

Exploratory hole locations were positioned to provide sufficient coverage of the site as follows:

Table 4: Sampling Strategy

Exploratory Hole	Notes/Rational
BH101 – BH102 *BH201-BH205*	Cable percussive boreholes were placed strategically placed under proposed building locations in order to assess ground conditions at depth and collect information on soil and rock strengths. Select boreholes are to be installed with groundwater and gas monitoring standpipes.
TP101 – TP105	Trial pits were spread across the site in order to maximise coverage. Trial pits were dug in order to assess shallow ground conditions, determine the Made Ground profile, acquire bulk, disturbed and environmental samples for geotechnical and environmental testing.
TP101A	Trial pits were positioned strategically at areas to determine soil permeability through in-situ soakaway testing.
HP101 – HP102 *HP201-204*	Hand dug pits were positioned to target the existing building foundations to determine construction.
HP103 – HP104	Hand dug pits were positioned to target the embankment soils to determine composition and assess contamination.
TRL101-TRL106	To obtain shallow soil CBR values for pavement design

The sampling strategy was based on obtaining sufficient samples from across the site. Samples were submitted for geotechnical and contamination testing as detailed below.

6.9 Geotechnical Testing

Geotechnical testing for the current phase of works was carried out by GSTL Ltd in accordance with *BS1377: Methods of test for soils for civil engineering purposes*, as listed in the table below:

Table 5: Geotechnical Testing

No. of Tests	Test	Test Method
Classification Tests		
17	Moisture Content tests	BS1377: Part 7.
10	Atterberg tests	BS1377: Part 2.
4	Particle Size Distribution (Wet Sieve) tests	BS1377: Part 2.
Compaction Testing		
2	Dry density / moisture content	BS1377: Part 4.
Compressibility Testing		
2	One-dimensional consolidation	BS1377: Part 5.
Soil Strength Testing		
6	Quick Undrained Triaxial (Unconsolidated Undrained) – Single Stage	BS EN ISO 17892-8
14	Quick Undrained Triaxial (Unconsolidated Undrained) – Multi Stage	BS EN ISO 17892-8
Chemical Testing		
10	BRE Suite D	BRE Special Digest

Geotechnical test results are contained in **Appendix D**.

6.10 Contamination Testing

The geo-environmental testing was carried out by Eurofins Chemtest (UKAS and MCERTS accredited) on behalf of Jackson Geo Services and Terra Firma Wales Group. Sub-samples were taken from the exploratory holes and placed in appropriate environmental containers before being sent by courier to the laboratory in cool boxes. The number of soil samples tested are summarised in Table 6.

Table 6: Soil Contamination Testing

Exploratory Hole	Depth From (mbgl)	Depth To (mbgl)	Sample Type	Analysis Undertaken
HP101	0.20	0.40	Soil	'Brownfield Soil Suite' Heavy Metals, Polyaromatic Hydrocarbons, Speciated PH (Aliphatic and Aromatic C5-C40), Phenols, Moisture, Ph Value of Soils, Total Organic Carbon, Asbestos screen.
TP105	0.50	0.60		
TP103	0.30	0.50		
TP101	1.00	1.20		
TP101A	1.50	1.60		
TP104	0.50	0.70		
TP104	3.40	3.50		
HP103	0.50	0.70		
HP104	0.30	0.50		
BH205	0.3	0.3	Soil	'Brownfield Soil Suite' Heavy Metals, Polyaromatic Hydrocarbons, Moisture, Ph Value of Soils, Total Organic Carbon, Asbestos screen.
BH205	0.6	0.6		

Contamination test results are contained in **Appendix D**.

7 Ground Conditions

7.1 Ground Conditions Encountered

The ground conditions revealed during the ground investigation are summarised in the table below. Exploratory hole logs are provided in **Appendix C**, and locations of exploratory holes are presented on plan in **Appendix A**.

Table 7: Ground Conditions Summary

Description	Stratum	Encountered in	Average depth to top of stratum (m bgl)	Average depth to base of stratum (m bgl)	Average thickness (m)
Grass over soft brown slightly silty sandy CLAY with rare subangular to subrounded gravel of brick sandstone, concrete and ceramic. Rootlets 1-2mm in diameter.	Made Ground (Top Soil)	All Exploratory Locations	0.00	0.25	0.25
Yellowish brown / reddish brown and grey slightly sandy gravelly CLAY. Gravel of fine to coarse subrounded to subangular sandstone, mudstone, concrete, red brick fragments and rare ceramic, and glass fragments. Low cobble content of brick and concrete.	Made Ground	All Exploratory Locations	0.25	From 0.25m bgl to depths exceeding 3.5m bgl.	0.25m up to around 4m (estimate)
Firm reddish brown mottled grey CLAY, with occasional pockets and lenses of fine to medium sand and rare sandstone gravels. Low to medium cobble content. Occasionally as sandy clay or as SAND.	Glacial Till	BH101-BH102, and TP102	Between 0.30 and 3.2m (where proven)	>25m bgl Unproven	>23.2m Unproven

7.2 Topsoil (Made Ground)

Topsoil (Made Ground) was encountered across the entirety of the site, as all exploratory hole locations targeted areas of soft landscaping. Topsoil is understood to have been placed historically following the artificial raising of site levels in the 1980's ahead of redevelopment works. Therefore, these soils can be considered as Made Ground.

Topsoil was encountered from ground level to depths of between 0.13m-0.40m bgl. As a soft brown slightly silty sandy clay, with rare subangular to subrounded gravels of brick sandstone, concrete and ceramic. Grass overlies these soils with rootlets 1-2mm in diameter, present to approximately 0.10m bgl.

7.3 Made Ground

The Made Ground was identified across the site, and was observed to be deeper in the southern half of the proposed development and in along the proposed buildings western edge, towards the alignment of the former watercourse (3.2-4.2m bgl), with depths in the central northern area, BH102 and BH202, being 1.8m and 2.0m bgl, respectfully.

Where encountered, to the west of the existing building, the Made Ground was relatively consistent in composition across the site comprising reworked glacial deposit soils likely excavated from nearby sources. These soils were encountered from directly below placed topsoil, at between 0.13-0.40m bgl, to depths between 1.8m and exceeding 4.2m bgl.

However, east of the building Made Ground below placed topsoil was either not encountered (TP102), or encountered only to 0.4m bgl (BH205).

The Made Ground soils across the site comprised firm yellowish brown, reddish brown and grey (slightly) sandy gravelly CLAY. Gravel comprised fine to coarse subrounded to subangular sandstone, mudstone, concrete, red brick fragments with rare ceramic, and glass fragments. A low to medium cobble content of brick and concrete was also noted.

A review of previous 1990's GI works undertaken at the site indicated Made Ground soils were present to depths of 2.5m bgl, shallower than encountered in the recent phases of GI. Due to these increased depths (>3.5m bgl), as well as the encountering of services, the base of Made Ground was commonly not proved in trial pits.

7.4 Glacial Till Deposits

Made Ground was penetrated only within each of the boreholes (BH101-102 and BH201-205), and a single trial pit (TP102).

East of the building the Glacial Till soils were encountered at 0.30-0.40m, and in the west, the upper profile of the natural glacial deposits were encountered only within the cable percussive boreholes, from depths of between 1.8m and 4.2m bgl, to depths up to 25m.

These soils typically comprised firm to stiff reddish brown mottled grey variably sandy CLAY, with occasional pockets, lenses, and lamination of fine to medium sand and rare sandstone gravels. Occasionally recorded as soft or very stiff.

All boreholes encountered larger stratum of sand within the Glacial Till, with the exception of the shallower borehole, BH205. A number of strata are recorded as 'very sandy' or with 'lenses of sand'.

A summary of the GI in respect to glacial deposit composition and profile is presented in the table below:

Table 8: Glacial Till Summary

BH Location	Depth to base of Made Ground (m bgl)	Depth to top of Sand (m bgl)	Depth to top of Sand (m AOD)	Depth to base of Sand (m bgl)	Depth to base of Sand (m AOD)	Thickness of Sand (m)	Very sandy/ lenses of sand (m bgl):
BH101	1.8	14.0	18.18	17.3	14.88	3.2	6.0-14.0 17.3-22.2
BH102	3.2	12.0	19.47	17.2	14.27	5.3	3.7-12.0
BH201	3.9	23.0	8.90	>25.0	<6.90	2.0+	-
BH202	2.0	13.5	18.53	18.2	13.83	4.7	18.2-25.0
BH203	4.0	20.8	10.97	23.6	8.17	2.8	15.0-20.8
BH204	4.2	19.5	11.67	21.6	9.57	2.1	9.0-13.0
BH205	0.4	-	-	-	-	-	6.0-7.5

Major sand bearing stratum are noted below depths of 12m bgl to depths of 17.2m to >25m bgl, (or between <6.90m AOD to 19.47m AOD, and thicknesses are generally between 2.1m and 5.3m where proven. A review of borehole locations and the spatial variability of the granular stratum indicates no correlation can be inferred from the encountered depths. Less significant sandy layers are encountered at a variety of depths throughout each of the boreholes.

It was not possible to progress cable percussive boring below 25m bgl in the Glacial Deposits due to water ingress, artesian pressure water and the inability to further casing. This is expected to be associated with sand or sandy stratum of the deposits holding confined groundwater.

7.5 Groundwater

During the ground investigation groundwater was noted in all of the borehole locations. Groundwater ingress, seepage or strikes were not observed within any of the shallower trial pit excavations, which extended to maximum depths of 3.5m bgl, and which typically encountered cohesive stratum (clay with varying sand content).

A number of groundwater strikes were recorded within each of the boreholes during drilling, as noted below. The groundwater is likely to associated with the more granular beds and lenses within the Glacial Till.

In the initial phase of GI, in BH101, the following groundwater strikes were recorded: An initial strike at 5.2m bgl, rising to 4.8m after 20 minutes, a second at 10.5m not rising after 20 minutes, and a third at 20.2m bgl rising to 1.5m bgl after 20 minutes. In BH102, the following groundwater strikes were recorded: A strike at 3.5m rising to 2.5m. A strike at 13.5m, no rise. A strike at 19.4m rising to 18.0m in 20 mins.

In the supplementary phase of GI, all boreholes encountered groundwater, which was artesian in pressure in 3 no. of the 5 no. locations. In BH201, groundwater was struck at 24.50m bgl, rising to surface within 20 minutes, in BH203, at 5.2m bgl and 20.80m bgl, rising to ground level after 20 minutes in both cases, and in BH204, at 24.5m bgl rising to ground level after 20 minutes.

In BH202 groundwater was struck at 3.0m and 13.5m bgl, rising to 1.80m and 6.0m bgl respectively. In the shallower borehole to the east of the building (BH205) groundwater was stuck at 7.0m rising to 6.80m bgl after 20 minutes.

Groundwater monitoring was undertaken in boreholes of the initial GI, the results are shown in the table below, in metres below ground level (m BGL), and metres above ordnance datum (m AOD).

Table 9. Summary of groundwater monitoring results

			Groundwater Levels					
Borehole ID	**Borehole level (m AOD)**	**Well Response Zone m BGL**	**26/01/2024**		**02/02/2024**		**12/02/2024**	
			m AOD	**m BGL**	**m AOD**	**m BGL**	**m AOD**	**m BGL**
BH101	32.18	2 – 5	31.38	0.80	31.81	0.37	31.73	0.45
BH102	31.47	1 – 5	31.47*	0.0*	31.47*	0.0*	31.47*	0.0*

** - Groundwater encountered within upstanding cover, above ground level, indicating possible artesian groundwater pressure.*

In summary, groundwater is present below the site typically associated with higher permeability sandy granular bands or lenses within the glacial deposit, and is encountered at various depths. The groundwater was noted to be artesian in holes BH101, BH201, BH203 and BH204 and was struck at depths of approximately 20 – 25m bgl.

The flooded upstanding cover of BH102 is indicated on the photograph below.



Photograph 1 – Flooded upstanding cover on BH102

During the supplementary GI artesian groundwater was encountered in BH201, BH203, and BH204. Which appears to be associated with more granular and sandy lenses within the glacial deposits which were found at depths frequently between 20-25m bgl. Cohesive deposits seem to be confining this groundwater. Boreholes were unable to progress further than 25m bgl due to the difficulty associated with this groundwater.

7.6 Foundation Trial Pits

HP101 – HP102 were excavated along the existing cold store buildings western boundary where proposals involve the joining of new structure with that of the existing structure, these targeted the existing buildings foundations to determine the buildings foundation type. Neither pit encountered a foundation pad or pile cap, and therefore only provided information of the buildings ground beam, the base of which was indicated to be approximate 400mm below ground level, as indicated in the image below.



Photograph 2: HP101 Foundation Detail

HP201 – HP204 encountered concrete foundation pads or pile caps which extending to depths between 0.65m to depths in excess of 1.2m bgl (HP202). Foundations were observed to step out from the building edge at locations HP202 and HP204 with a thickness of 0.30m and 0.35m respectively. In both HP201 and HP203 the base of the foundations were continuous with the building edge. Wooden shuttering was noted in HP201, associated with concrete pouring. Photographs and sketches are indicated below.

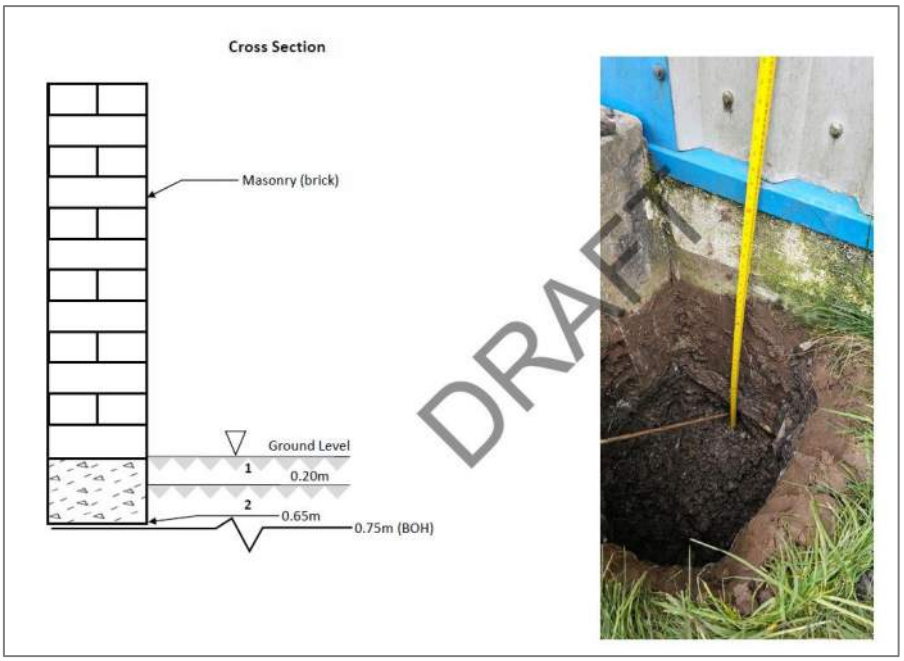


Figure 9: HP201 Sketch and Photo

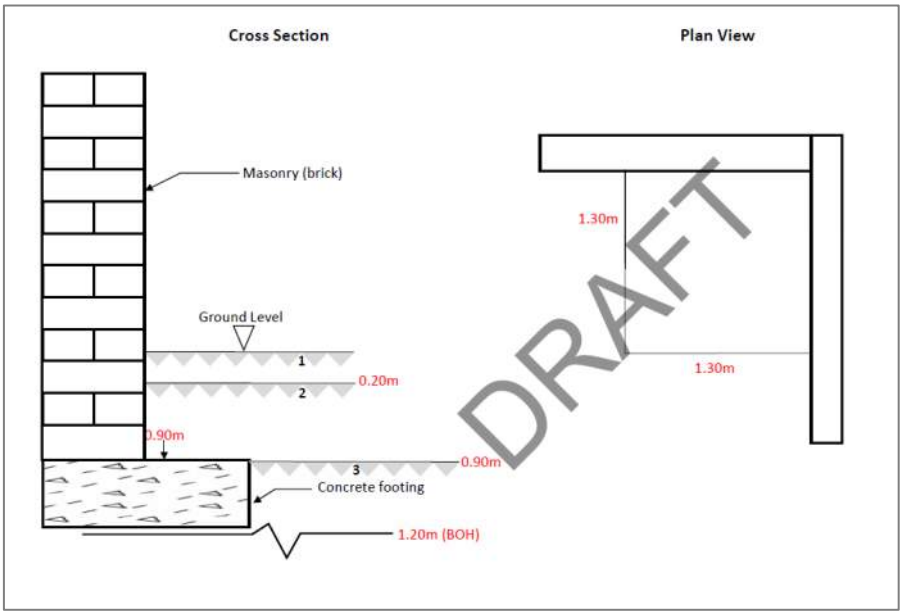


Figure 10: HP202 Sketch

7.7 Evidence of Contamination

No olfactory or visual evidence of contamination was encountered during the GI works undertaken.

8 Material Properties

The following section presents a summary of the geotechnical laboratory testing carried out to date from the Jackson Geo Services and Terra Firma Wales Group site investigations. Geotechnical testing was carried out by GSTL Ltd (MCERTS and UKAS accredited).

8.1 Made Ground

8.1.1 Atterberg Limits

7 no. samples were obtained from the Made Ground for Moisture Content testing, providing values of between 17% and 27%, with an average of 22%. 3 no. samples were obtained from the Made Ground for Atterberg testing, which had a natural moisture content between 22% and 24% and a plasticity index of between 31% to 39%, indicating a high plasticity with medium volume change potential.

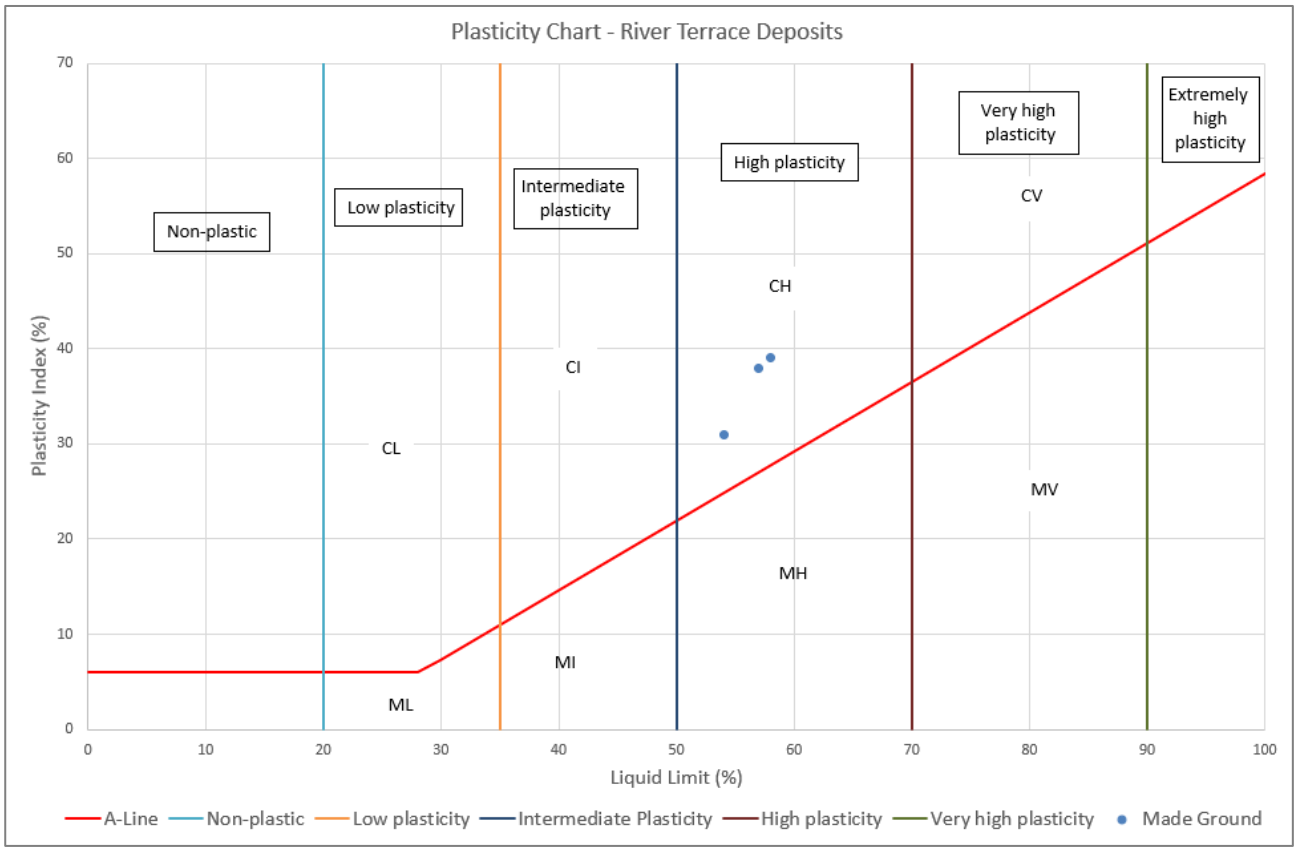


Figure 11. Made Ground – Atterberg Chart

Table 10. Summary of Atterberg Testing in Made Ground

	Minimum	Maximum	Average
Natural Moisture Content %	17	27	22
Liquid Limit %	54	58	57
Plastic Limit %	19	23	20
Plasticity Index %	31	39	36

8.1.2 Particle Size Distribution

2 no. PSD tests were carried out on samples acquired from the Made Ground at depths of 1.0 – 1.3m bgl (TP104) and 1.5 – 1.7m bgl (TP101), these samples indicate the Made Ground comprises sandy gravelly clay/ silt.

However, it should be noted that engineer logs identified the presence of cobbles within the Made Ground which has not been accounted for within these tests.

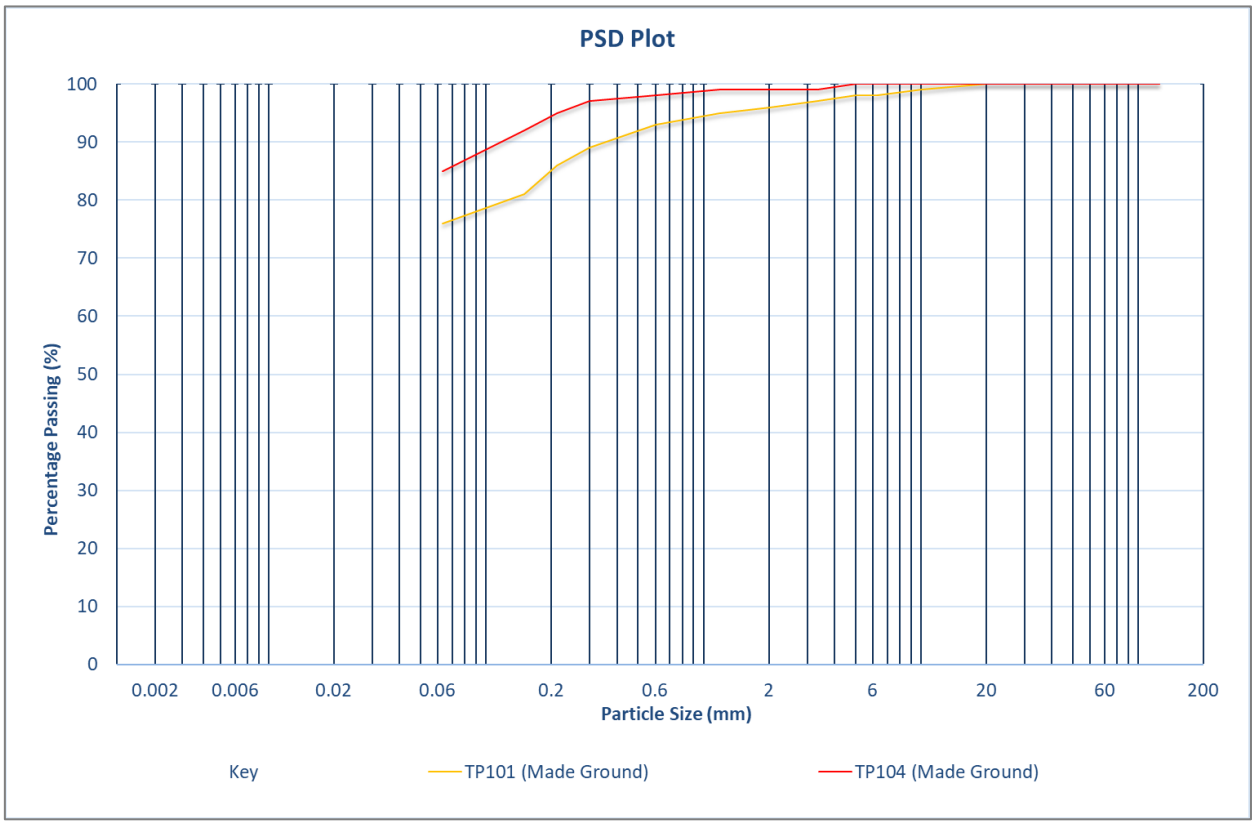


Figure 12: Particle size distribution chart of Made Ground

8.1.3 Standard Penetration Testing

A total of 11 no. standard penetration tests (SPT) were carried out within the Made Ground. The testing was carried out between 1.2m and 3m bgl depth. N values ranging between 11 and 15 were generally observed, however, in 2 no. tests, both from BH203, SPT test refusals were observed. This is expected to be due to anthropogenic cobbles or boulders of concrete within the Made Ground, recorded as "cobbles are concrete blocks up to 280x200x180mm" within the engineer logs, this size represents the largest cobble able to be obtained from the 200mm casing diameter, therefore these cobbles are expected to have been broken on drilling and be in-situ as larger boulders.

When discounting the 2 no. refusing SPT results an average SPT N value of 13.5 and a lower quartile value of 14.8, which when undertaken within cohesive material relates to a stiff clay. No significant correlation between N value with depth was identified.

The figure below shows the SPT results for tests within the Made Ground.

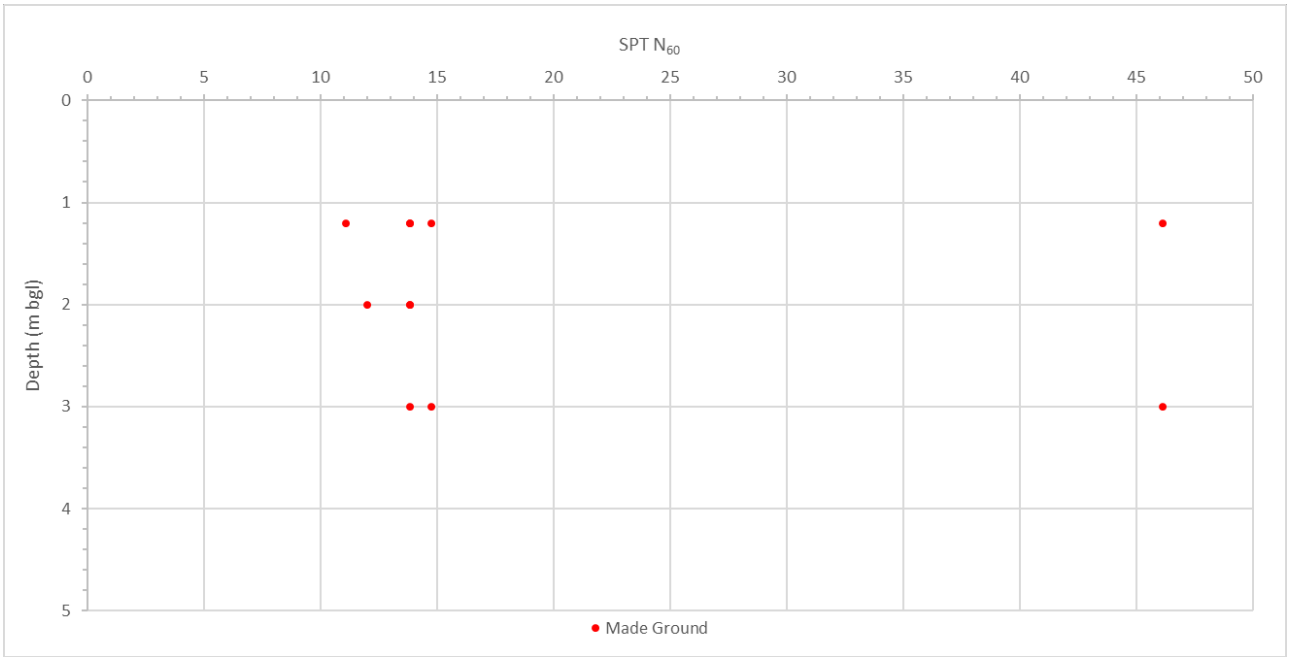


Figure 13. SPT Results – Made Ground

8.1.4 Undrained Shear Strength Testing

5 no. hand shear vane tests were carried out across the site within the cohesive Made Ground soils, undertaken from TP104 and TP105 between depths of 0.5m and 3m bgl. The results indicated an undrained shear strength ranging between 30kPa and 108kPa, with an average of 82kPa and a lower quartile of 70kPa.

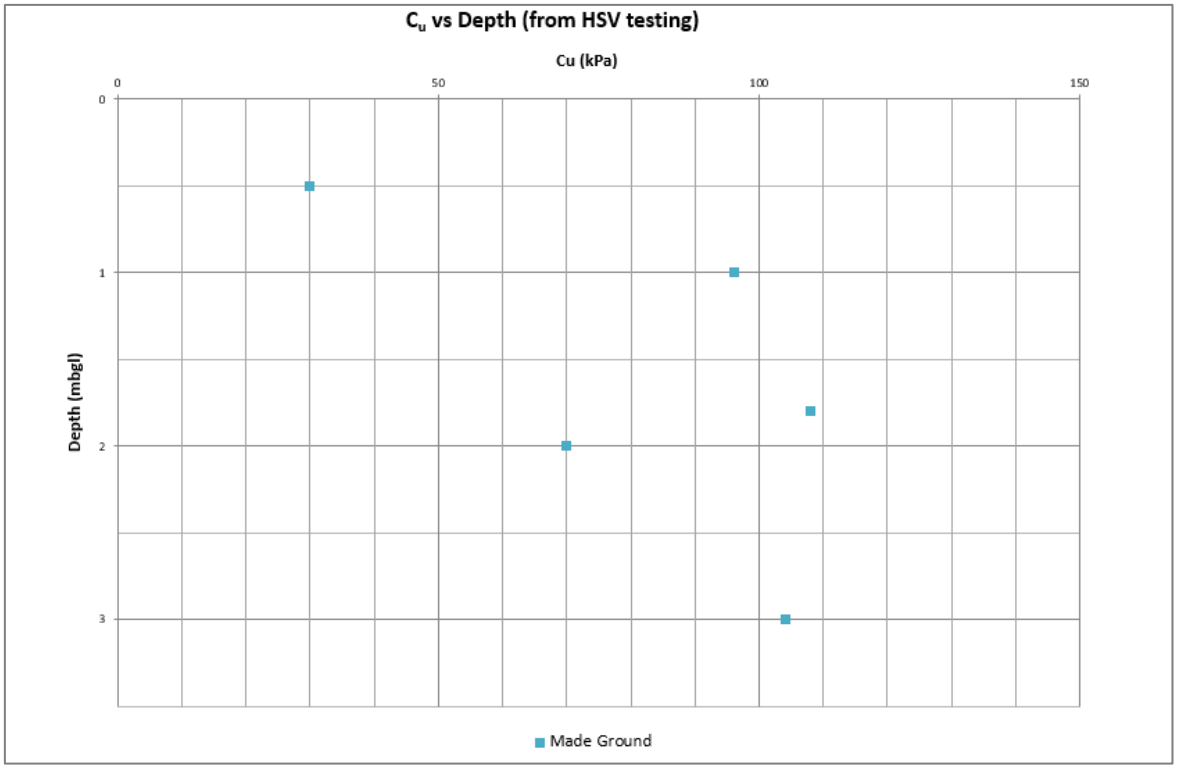


Figure 14. Made Ground – Hand Shear Vane results.

8.1.5 Consolidation Testing

In addition, 1 no. one-dimensional consolidation test was undertaken on an undisturbed sample from the Made Ground (2.00 – 2.45m bgl in BH102). Mv values of between 0.046 – 1.22 were recorded.

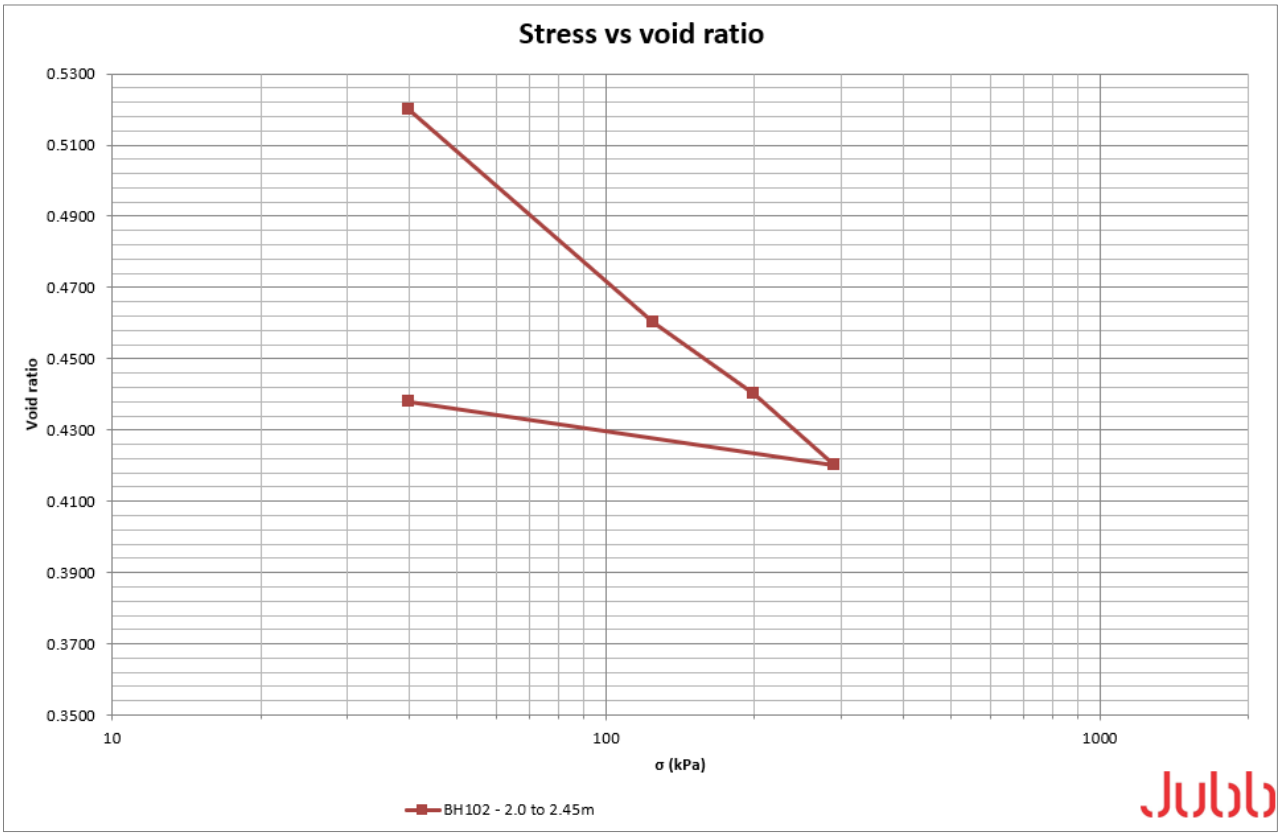


Figure 15: Made Ground Oedometer results

8.1.6 Geotechnical Characteristics

Geotechnical Characteristic properties of the Made Ground have been estimated in accordance with Section 4.3 of BS 8004:2015 Code of practice for foundations, using in-situ testing and correlated to observations made during the investigation works.

Table 11: Characteristic Properties – Made Ground

Characteristic Property	Symbol	Units	Characteristic Values	Source
Unit Weight	γ	kN/m³	17	1
Angle of Shearing Resistance	ϕ	Degrees	27	2

1. Derived from BS8004:2015
2. Gibson, Experimental Determination of the True Cohesion and True Angle of Internal Friction in Clays, Proc. Of the Third Int. Conf. on Soil Mechanics and Foundation Engineering, Zurich, 1953. (PI= 35)

8.2 Glacial Till Deposits

8.2.1 Atterberg Limits

A total of 18 no. soil samples were taken from the superficial Glacial Till deposits, all of which were tested for moisture content, which ranged between 13% to 36%, with an average of 24%, and a lower quartile of 21.

7 no. samples were obtained from the Glacial Till for Atterberg testing, the moisture content of these samples varied from 21% and 32%, with plasticity index values between 25% and 40% (average – 35%), typically indicating a high plasticity (intermediate in a single case) with a medium volume change potential.

This single case of intermediate plasticity clay was obtained from TP102, in the east of the site, from 1.0-1.3m bgl.

Atterberg limit plots have been presented below.

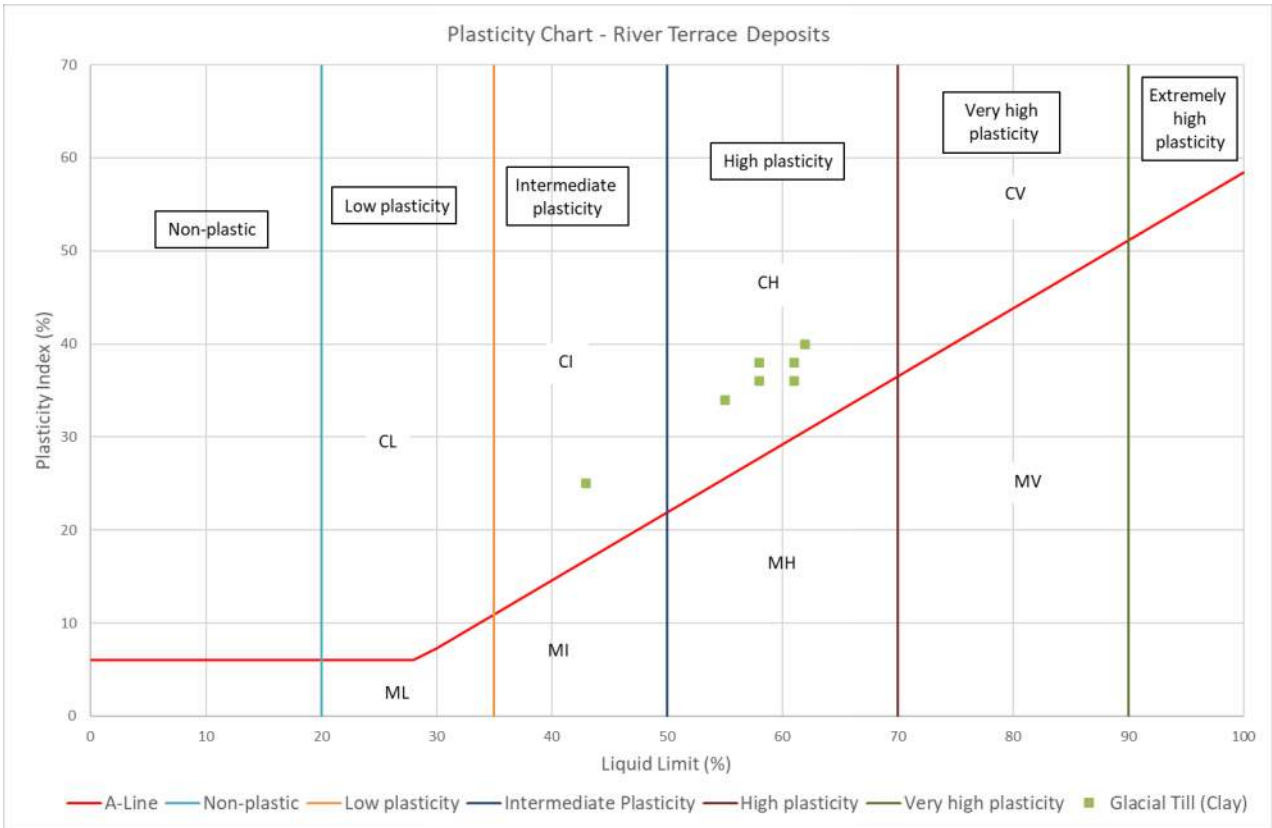


Figure 16: Glacial Deposits Atterberg Testing

Table 12. Summary of Glacial Deposit Atterberg Testing

	Minimum	Maximum	Average
Natural Moisture Content %	13	33	24
Liquid Limit %	43	62	57
Plastic Limit %	18	25	22
Plasticity Index %	25	40	35

8.2.2 Particle Size Distribution (PSD)

2 no. PSD tests were carried out on samples acquired from the Glacial Till deposits (TP102 at 1.5 – 1.7m and BH102 at 5.0 – 5.45m) which are presented in the figure below.

Both samples are very similar in terms of particle sizes, comprising slightly gravelly, sandy SILT/CLAY

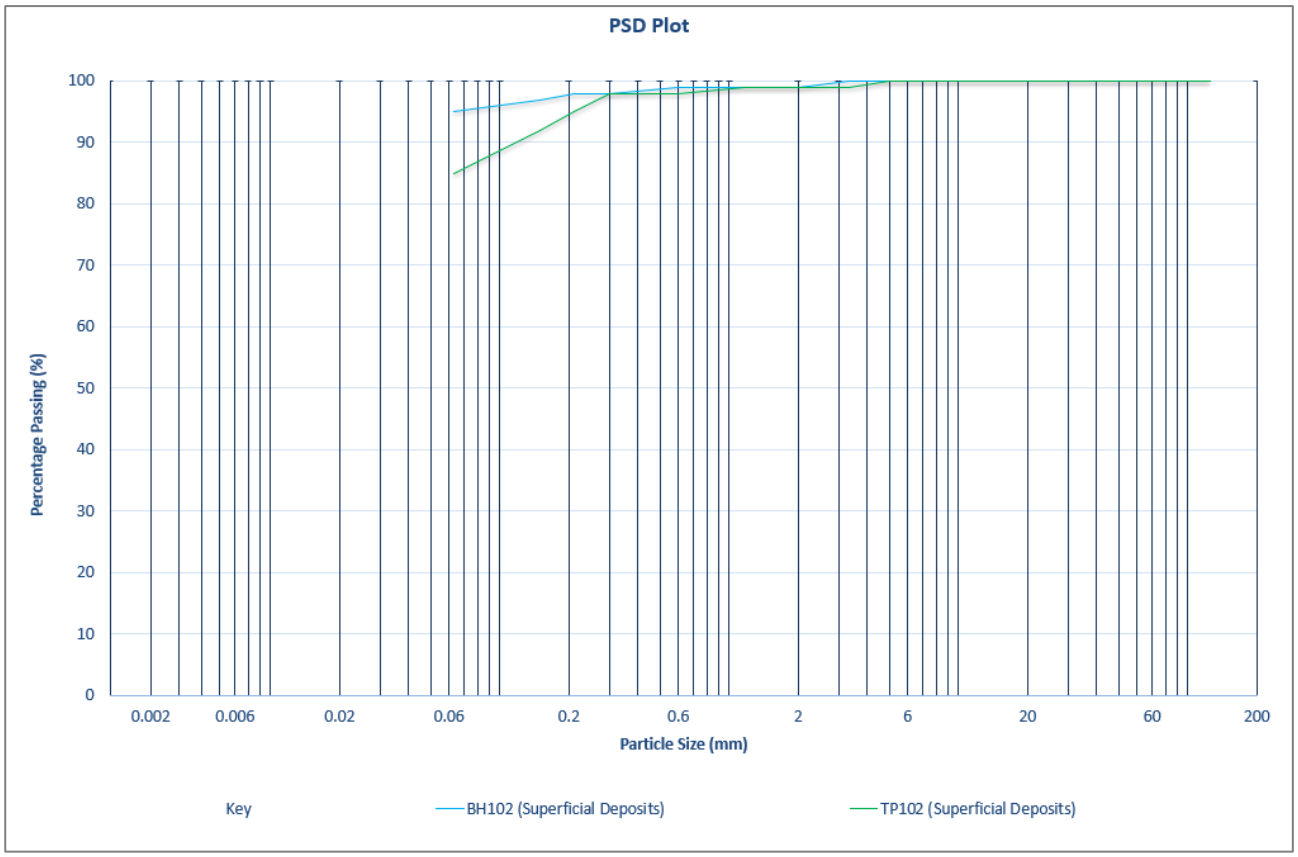


Figure 17: Particle size distribution chart of Glacial Deposits

8.2.3 Standard Penetration Test (SPT)

A total of 61 no. standard penetration tests (SPT) were carried out within the Glacial Till superficial deposits, 49 no. within variably sandy cohesive deposits and 12 no. within the more significant granular sand bands. The testing was carried out between 2m and 25m bgl depth and the SPT N_{60} results have been split into granular and cohesive units. No significant correlation between N value with depth was identified in either stratum.

Within the clay superficial soils, N values ranging between 6 and 24 were observed (with a single value of 38) indicating medium to high strength cohesive soils, with an average SPT N value of 14.1 and a lower quartile value of 11.8 (excluding the single elevated SPT value).

Within the granular superficial soils, encountered between variable depths ranging from 12.0m – 25.0+m bgl, N values ranging between 6 and 20 were observed, with an average SPT N value of 13 and a lower quartile value of 9. It is noted that the lower SPT values may be associated with 'boiling sands' where groundwater inflow is occurring, which may be giving uncharacteristically low values.

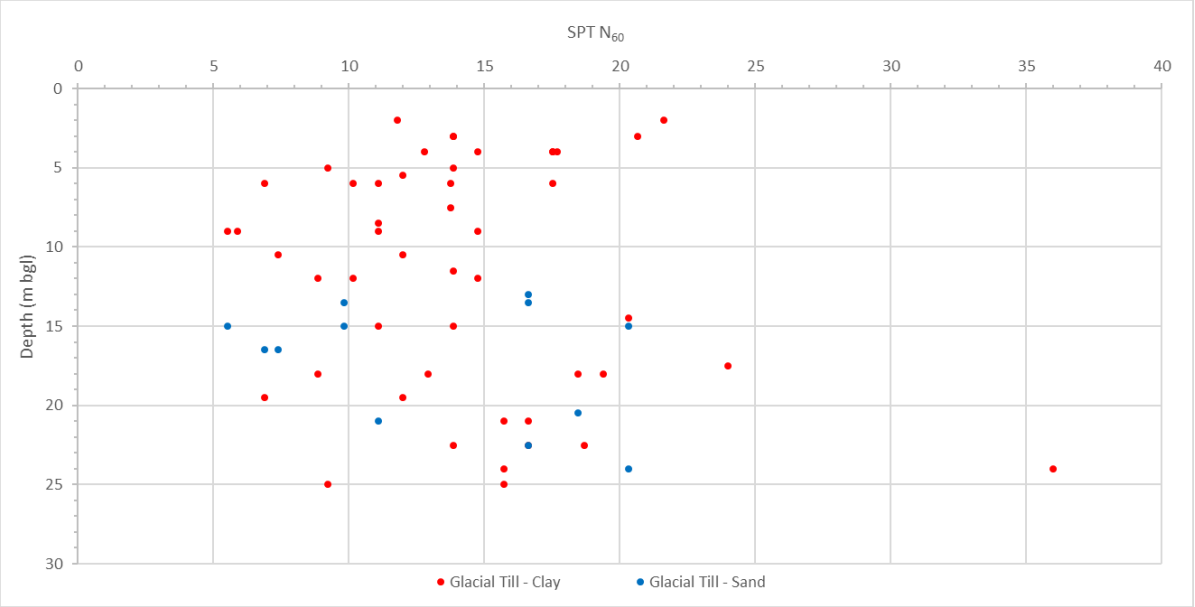


Figure 18. SPT Results – Glacial Deposits

8.2.4 Undrained Shear Strength

5 no. hand shear vane tests were carried out across the site within the cohesive superficial deposit soils, undertaken within TP102 between depths of 0.5m and 3.0mbgl. The results indicated an undrained shear strength ranging between 96kPa and 110kPa, with an average of 106kPa and a lower quartile of 105kPa.

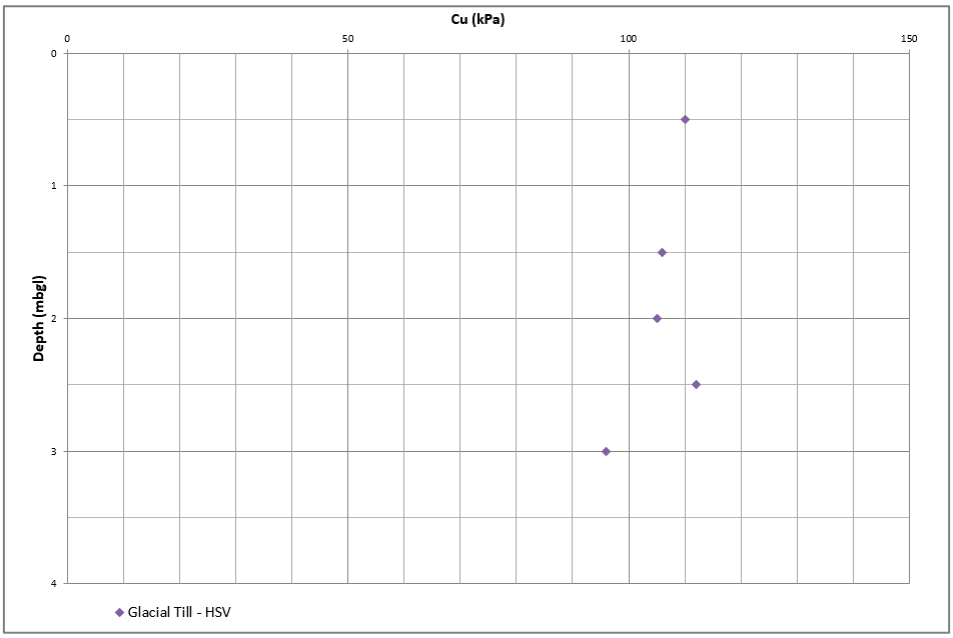


Figure 19: HSV Values for Glacial Till

In addition, a 20 no. unconsolidated undrained triaxial (QUT) test were carried out on undisturbed samples from boreholes. 6 no. single stage tests from the initial GI (BH101 and BH102), and 14 no. multi-stage tests from the supplementary GI (BH201-BH205). Tests were undertaken within the cohesive superficial deposit soils between 3.00m and 24.45m depth bgl, which returned variable undrained shear strengths of between 7kPa and 150kPa, with an average strength of 44kpa, and a lower quartile or 18kPa.

The QUT tests indicate a general split in results, with a number of samples showing markedly lower Cu values of less than <20kPa (specifically samples BH101 at 24m, BH102 at 12m, BH201 at 19.5m, BH202 at 7.5m & 10.5m, BH203 at

13m & 19m) which do not show consistency with the remaining results, or with correlated CU values derived from SPT tests, where Cu values in the range of 30 – 90 KPa are common. It is considered likely that these lower QUT values are as a result of sandy partings and lenses within the clay strata of the glacial till, which are giving artificially low results.

When these anomalous low results are removed from the dataset, the undrained shear strength results range from 24 – 150kPa, with an average strength of 60kpa, and a lower quartile or 35kPa, which is considered to be more indicative of the cohesive Glacial Till deposits.

For comparison purposes, SPT N Values have also been converted to Cu values, and these have been plotted below along with the QUT results in the figure below. HSV results from trial pitting are also plotted for completeness.

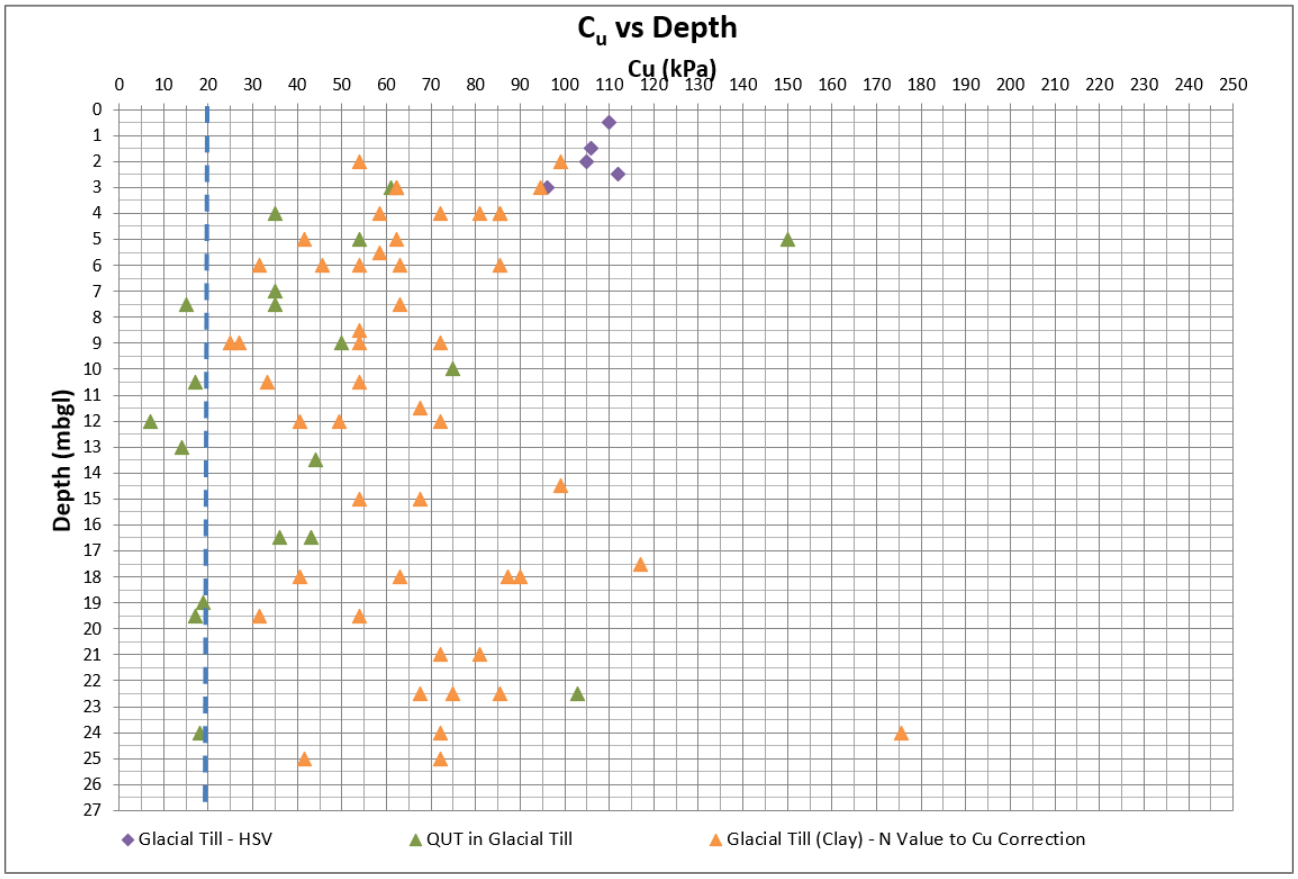


Figure 20. Glacial Till – Cu from QUT and SPT N Value Correlations (anomalous results below 20 kPa are indicated left of the blue line).

8.2.5 Consolidation Testing

In addition, 2 no. one-dimensional consolidation tests were undertaken on an undisturbed sample from the Glacial Till materials, as indicated below.

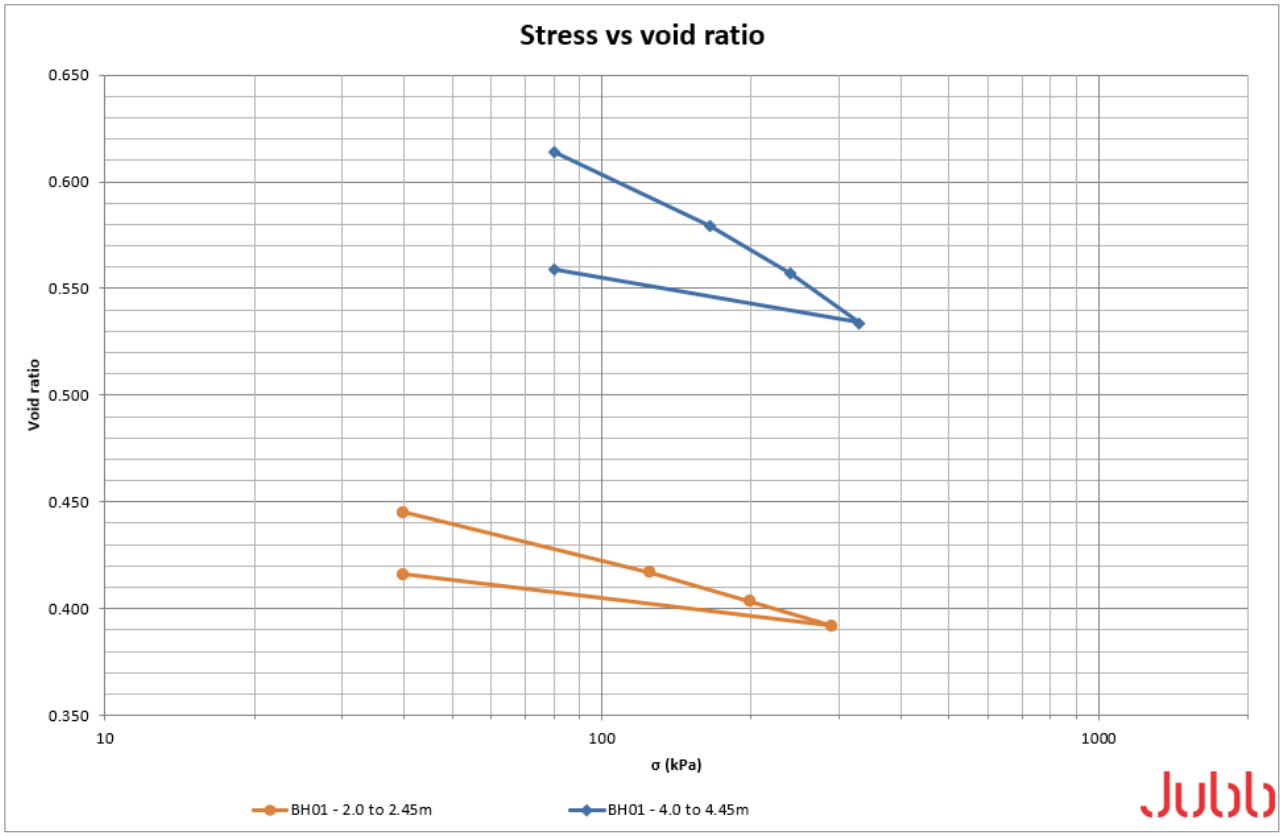


Figure 21: Oedometer Test Results – Glacial Till

8.2.6 Geotechnical Characteristics

Geotechnical Characteristic properties of the Superficial Deposits have been estimated in accordance with Section 4.3 of BS 8004:2015 Code of practice for foundations, in-situ testing and correlated to observations made during the investigation works.

Table 13: Characteristic Properties – Residual Soils

Characteristic Property	Symbol	Units	Characteristic Values		Source
			Cohesive	Granular	
Unit Weight	γ	kN/m^3	16 – 18	18 – 19	1
Angle of Shear Resistance	ϕ	Degrees	19	29	2,3
Undrained Shear Strength	c_u	kPa	35	-	4, 5

1. Derived from BS8004:2015
2. Gibson, Experimental Determination of the True Cohesion and True Angle of Internal Friction in Clays, Proc. Of the Third Int. Conf. on Soil Mechanics and Foundation Engineering, Zurich, 1953 (PI= 35).
3. Peck, Hanson and Thornburn, Foundation Engineering, 2nd ed., 1974, John Wiley and Sons (Lower Quartile, N=8).
4. In-situ SPT testing correlations – lower bound value selected based on variability of strength observed.
5. Laboratory testing – lower bound value

9 Generic Quantitative Risk Assessment (Contamination)

9.1 General

The following comprises a Generic Quantitative Risk Assessment (GQRA) of contamination risk, in accordance with the methodology set out in **Appendix H**.

The following updated conceptual model information has been taken from the information obtained in **Section 4.0 and Section 5.0** and from the site walkover. Contamination testing carried out during the ground investigation has been used to supplement the preliminary conceptual model presented in **Section 4.0.**

9.2 Proposed Development and Land Use

The proposed development comprises the extension of the existing cold store facility with a new high bay extension on the eastern side of the development, with the addition of new blast freezer structures on the west of the site, and the development of a smaller low elevation production building on the southeast corner of the existing building.

Additionally, hardstanding for carparking and new road structures are proposed. The existing buildings are understood to be retained, with no demolition works proposed.

A commercial land use scenario is therefore assumed for assessment purposes below.

9.3 Risks to Human Health

9.3.1 Soils

This section summarises chemical results from the recent geotechnical investigation carried out by Jackson Geo Services and Terra Firma Wales Group. Rationale for the site environmental testing was to provide general site coverage to determine human health. In addition, selected exploratory hole locations were positioned to assess to target potential contamination sources identified during the desktop study (predominantly Made Ground from the raising of site levels).

The generic assessment criteria used in this case are generally the LQM/CIEH Suitable 4 Use Levels (S4Uls), based on minimal or tolerable risk and are intended to be protective of human health. Different criteria are provided for a variety of land use, and the criteria for “Commercial and Industrial” has been adopted here.

Both the C4SL and S4UL are based on current best practice and reflect the most up to date guidance and legislation.

The exception to this is use of the C4SL levels for Lead, as S4UL are not provided for this substance.

In accordance with best practice, individual exceedances of the relevant assessment criteria have been identified and comment provided where necessary.

9.3.1.1 Metals and Semi Metals

The table below summarises the chemical results for metals and semi-metals on site from the investigations for all environmental samples tested Made Ground under commercial and industrial use GAC values:

Table 14: Summary of Soil Contamination – Metals and Semi Metals

Contaminant	Generic Assessment Criteria mg/kg	Source	Measured concentrations mg/kg		95% UCL*	Number of individual exceedances
			Minimum	Maximum		
Arsenic	640	S4UL	4.9	13	-	0/11
Cadmium	190	S4UL	0.17	1.00	-	0/11
Chromium (III)	8600	S4UL	19	36	-	0/11
Chromium (VI) (Hexavalent)	33	C4SL	<0.50		-	0/9

Copper	68000	S4UL	22	85	-	0/11
Lead (ref 1)	750	S4UL	22	85	-	0/11
Mercury (Elemental)	58	S4UL	<0.05	0.08	-	0/11
Nickel	980	S4UL	15	41	-	0/11
Selenium	12000	CIEH	0.27	1.3	-	0/11
Zinc	730000	-	52	350	-	0/11

- C4SL – DEFRA Category 4 Screening Levels (2014).
- S4UL – CIEH/LQM Suitable 4 Use Levels (2015).
- *95% Upper Confidence Limit (UCL) statistical analysis not undertaken where there are no contaminant exceedances and/or insufficient number of samples

No exceedances above commercial and industrial use GAC values for metals and semi-metals were identified at the site. No stand-out locations of elevated metals or of any specific metals across the site were identified.

9.3.1.2 Speciated PAH

The table below summarises the results for speciated PAHs on site from the investigations for all environmental samples tested Made Ground under commercial and industrial use GAC values.

Table 15: Summary of Soil Contamination – PAHs

Contaminant	Generic Assessment Criteria (mg/kg)	Source	Measured concentrations (mg/kg)		95% UCL***	Number of individual exceedances
			Minimum	Maximum		
Naphthalene	1100	S4UL	<0.10	0.85	-	0/11
Acenaphthylene	100000	S4UL	<0.10	<0.10	-	0/11
Acenaphthene	100000	S4UL	<0.10	<0.10	-	0/11
Fluorene	71000	S4UL	<0.10	<0.10	-	0/11
Phenanthrene	23000	S4UL	<0.10	0.35	-	0/11
Anthracene	540000	S4UL	<0.10	<0.10	-	0/11
Fluoranthene	23000	S4UL	<0.10	0.50	-	0/11
Pyrene	54000	S4UL	<0.10	0.45	-	0/11
Benzo[a]anthracene	180	S4UL	<0.10	0.24	-	0/11
Chrysene	350	S4UL	<0.10	0.22	-	0/11
Benzo[b]fluoranthene	45	S4UL	<0.10	0.35	-	0/11
Benzo[k]fluoranthene	1200	S4UL	<0.10	0.12	-	0/11
Benzo[a]pyrene	36	S4UL	<0.10	0.27	-	0/11
Indeno[123-cd]pyrene	510	S4UL	<0.10	0.18	-	0/11
Dibenz[ah]anthracene	3.6	S4UL	<0.10	<0.10	-	0/11
Benzo[ghi]perylene	4000	S4UL	<0.10	0.15	-	0/11

- S4UL – CIEH/LQM Suitable 4 Use Levels (2015).
- *95% Upper Confidence Limit (UCL) statistical analysis not undertaken where there are no contaminant exceedances and/or insufficient number of samples

No exceedances above commercial and industrial use GAC values for Speciated Polyaromatic Hydrocarbons were identified at the site. The majority of speciated PAHs were identified below laboratory limit of detections (<0.1mg/kg), but a number were observed at slightly elevated levels, including Phenanthrene, Fluoranthene, and Pyrene, which were identified above LODs in numerous samples collected from the Made Ground within the western development area. A number of other speciated PAH's were encountered above LOD's within samples the collected from TP101 and TP101A, in the area of proposed attenuation and proposed carparking.

No concentrations above LOD were identified in Made Ground soils from the embankment (HP103 and HP104).

None of the concentrations in any samples were at levels of concern in respect to PAHs.

9.3.1.3 Petroleum Hydrocarbons

Testing for petroleum hydrocarbons was carried out across 9 no. selected samples taken with no exceedances noted.

Table 16: Summary of Petroleum Hydrocarbon testing

Contaminant	GAC (mg/kg)	Source	Measured concentrations (mg/kg)		95% UCL***	Number of individual exceedances
			Minimum	Maximum		
Aliphatic EC 5-6	12000	S4UL	<0.05	<0.05	-	0/9
Aliphatic EC >6-8	40000	S4UL	<0.1	<0.1	-	0/9
Aliphatic EC >8-10	11000	S4UL	<0.05	<0.05	-	0/9
Aliphatic EC >10-12	47000	S4UL	<2.0	3.50	-	0/9
Aliphatic EC >12-16	90000	S4UL	<1.0	1.20	-	0/9
Aliphatic EC >16-35	1800000	S4UL	<5	<5	-	0/9
Aliphatic EC >35-44	1800000	S4UL	<10	<10	-	0/9
Aromatic EC >5-7	86000	S4UL	<0.05	<0.05	-	0/9
Aromatic EC >7-8	180000	S4UL	<0.05	<0.05	-	0/9
Aromatic EC >8-10	17000	S4UL	< 0.05	< 0.05	-	0/9
Aromatic EC >10-12	34000	S4UL	< 1.0	< 1.0	-	0/9
Aromatic EC >12-16	38000	S4UL	<1	<1	-	0/9
Aromatic EC >16-21	28000	S4UL	<2.0	3.10	-	0/9
Aromatic EC >21-35	28000	S4UL	<2.0	17.00	-	0/9
Aromatic EC >35-40	28000	S4UL	<1.0	3.00	-	0/9

- S4UL – CIEH/LQM Suitable 4 Use Levels (2015).
- *95% Upper Confidence Limit (UCL) statistical analysis not undertaken where there are no contaminant exceedances and/or insufficient number of samples

No exceedances above commercial and industrial use GAC values for Petroleum Hydrocarbons were identified at the site. No concentrations above LOD's were identified in lighter phase Petroleum Hydrocarbons (with carbon banding below C12) and a small number of samples were noted to be above LOD, primarily Aromatic in the range of C16-40. None of the elevations above LOD were considered to be a concern.

9.3.2 Ground Gas

The ground gas risk at the site has been assessed in accordance with BS 8485:2015 +A1:2019 and CIRIA C665. Based on the Desk Study information and GI data available, it is judged that the ground gas generation potential of the site is generally low, due to lack of viable sources of ground gas, apart from the existing layer of made ground across the site (where relic topsoil may exist at the base of the made ground), which is typically noted to not contain any significant putrescible or organic matter, and is general noted as having low Total Organic Carbon percentages (<3%).

Groundwater and Gas monitoring standpipes were installed in each of the cable percussive boreholes (BH101 and BH102) to maximum depths of 5m bgl. Ground gas monitoring of both holes was undertaken on 3 no. occasions. Due to high ground water levels and artesian groundwater pressure in BH102 (with groundwater flooding the headworks for the borehole and monitoring tube), no ground gas monitoring was possible in this hole.

It should also be noted that the monitoring well response zone for BH101 was installed from 2 – 5m bgl, and due to the rising groundwater conditions that was encountered in this hole, the response zone is fully flooded with water. Therefore, any gas within the remaining plain section of the monitoring well would be compressed by the groundwater, and the gas monitoring results (both concentrations and flow rates) from this well are not considered to be reliable. The results for BH101 are presented in the table below.

Table 17: Ground Gas Monitoring Results

Date	Atmospheric Pressure (mbar)	Bore hole No:	Groundwater Level (mbgl)	Methane CH4 (%)		Carbon Dioxide CO2 (%)		Oxygen (%v/V)		Flow Rate (l/hr)
				Peak	Steady	Peak	Steady	Min	Steady	
26/01/24	1025	BH101	0.80	0.5	0.5	0.2	0.1	20.9	20.9	11.1
02/02/22	1020	BH101	0.37	0.1	0.1	0.5	0.5	20.4	20.4	-1
12/02/22	1001	BH101	0.45	1.1	1.1	0.2	0.2	20.7	20.6	0.3

Therefore, given the lack of viable source of ground gas in the conceptual model for the site, we would recommend that the site is considered to be Characteristic Situation 1, which is classified as Very Low Risk.

Based on the above, no specific gas protection measures will be required.

9.3.3 Radon

The Envirocheck Report indicates that the site is not within a Radon Affected Area, with <1% of homes are above the action level, and therefore, no radon protection measures are required in the construction of any building on the site.

9.3.4 Asbestos

Asbestos screening was carried out on all 11 no. samples collected within the Made Ground across the site. None of the samples tested indicated the presence of asbestos fibres.

Additionally, no visual fragments or evidence of ACM was observed during the ground investigation.

9.4 Risk to Controlled Waters

No significant mobile or leachable contamination has been encountered during the GI works, and no significant potential sources of groundwater contamination have been identified on the site (such as below ground tanks).

While no specific groundwater testing has been undertaken, the risks to controlled waters are deemed to be low.

9.5 Risks to Flora and Fauna

No significant risks to flora or fauna have been identified at the site.

9.6 Risks to Adjacent Land and Third Parties

No significant risk to neighbouring occupiers has been identified.

9.7 Potential Geo-Environmental Liabilities

Potential geo-environmental liabilities under Part 2A of the Environmental Protection Act 1990 (as amended) and the Groundwater Regulations (GWR) 2009, relating to the site in its current condition and proposed end use is not considered likely based on the tests data available.

9.8 Off Site Disposal

All soil sample data has been screened and classified in accordance with WM3 methodology (using Hazwaste Software) to identify if the site soils would be classified as hazardous or are non-hazardous waste for disposal purposes. All samples tested were classified as ‘non hazardous’.

The Hazwaste Assessment Report is provided in **Appendix J**.

9.9 Updated Conceptual Site Model

Table 18 shows the updated conceptual site model, which has been formulated based on the information obtained in the ground investigation and historic data.

Table 18: Updated Conceptual Site Model

Preliminary Conceptual Site Model						
Sources	**Receptor**	**Pathway**	**Consequence**	**Probability**	**Risk**	**Recommended Action (to clarify level of risk and assess suitable mitigation measures or to mitigate the risk)**
Made Ground (Earthworks) – possibly including elevated concentrations of metals, metalloids, asbestos fibres or ACM, PAH and petroleum hydrocarbons.	People (neighbours, site end users)	Ingestion Inhalation Direct Contact	Mild	Low likelihood	Low risk	Site Investigation has determined a low contamination potential of Made Ground on site, used to raise site levels, despite previous investigations indicating an elevated heavy metal content of soils. The results of the laboratory screening exercise indicates no asbestos fibres or ACM has been identified within the Made Ground soils. Use of suitable PPE and good hygiene practice on the site to mitigate risk.
	Surface water / groundwater	Percolation/ leaching/ overland flow	Mild	Low likelihood	Low risk	The historic redirection of the nearby stream off-site was recommended on the basis of elevated heavy metals within site soils. However, within the recent GI, no such elevated metals have been identified in the samples tested, and therefore confirms the mitigation actions were successful in removing the risk. Shallow groundwater on site has been confirmed, within both BH10 and BH102, with multiple groundwater strikes, resulting in rising water levels, to near ground level, subsequent monitoring has resulted in ground level water levels indicating artesian pressure water within granular bands of the Glacial Till.
Contamination associated with former munitions storage – possibly including organic solvents/compounds, inorganic compounds, heavy metals and metal compounds (i.e. lead), sulphur, and asbestos fibres or ACM	People (neighbours, site end users)	Ingestion Inhalation Direct Contact	Mild	Low likelihood	Low risk	Site Investigation has not identified any significant contamination associated with the sites former munitions storage use. However, in a number of exploratory holes the base of Made Ground was not penetrated, and although excavations to these depths are unlikely, based upon site ground conditions and development proposals, the Made Ground immediately above natural deposits may differ to those encountered on site. All munitions store foundations (and construction material) are understood to have been removed, although the GI has identified a number of anthropogenic cobbles of concrete which may relate to historic demolition works. Use of suitable PPE and good hygiene practice on the site to mitigate risk.
	Surface and Groundwater	Percolation and leaching to groundwater;	Mild	Low likelihood	Low risk	As per: *Made Ground (Earthworks) – Surface water/ groundwater risks*
Hydrocarbon fuels and lubricants – from heavy vehicles and car parking	People (neighbours, site end users)	Ingestion Direct Contact	Medium	Unlikely	Low risk	Minimal reconfiguration of structures is recorded since the redevelopment of the land in the 1990's. As the site Investigation has not identified any elevated hydrocarbons in shallow Made Ground soils onsite, and hard standing on site is understood to remain with the replacement of the personnel vehicle car park in the southwest for a proposed building (no new soft landscaping). No significant risk remains in respect to hydrocarbon contamination. The use of suitable PPE and good hygiene practice on the site to mitigate risk.
Ground Gases	Future Site Users	Inhalation	Medium	Low likelihood	Low risk	From a review of previous investigation, no anthropogenic sources of ground gas are expected at this stage. The GI has not identified any organic rich or alluvial deposit soils. The results of the ground gas monitoring program has not identified a risk of ground gas.

9.10 Contamination Risk Summary

- No exceedances were detected within the site soils, when tested against a brownfield suite of determinants and compared against Generic Assessment Criteria values adopted for Commercial/Industrial land use.
- No asbestos was identified within any of the samples tested.
- Gas risk at the site has been categorised as very low risk, requiring no special protection.
- No risk to controlled waters has been identified.

9.10.1 Proposed Mitigation Strategy

Based on the above assessment, no specific mitigation or remedial measures are considered necessary at the site.

However, given the site was operational during the ground investigation, areas below existing car parks and hardstanding were not investigated, and contamination may exist here which remains undetected. A watching brief should be maintained during the construction phase for unforeseen or unexpected contamination. In particular, Made Ground soils should be inspected at formation level during the construction phase, and these should be subject to further testing if considered necessary (if suspected contamination is encountered).

Notwithstanding the above, standard task specific PPE and good hygiene practices should be adopted by site groundworkers and a watching brief should be maintained during groundworks for unexpected or unknown contamination.

9.10.2 Waste Assessment

The WM3 Haz Waste assessment indicates all material tested on the site are classified as ‘Non-Hazardous’ and as such, an allowance for disposal of non-hazardous materials should be made for the Made Ground and superficial soils.

Depending upon the cut and fill strategy, and potential disposal routes of any surplus soils, further WAC testing may be required to inform disposal options.

10 Geotechnical Assessment

10.1 Site Proposals

Site proposals are for the construction of the following:

- **Proposed Main Extension** – comprising Cold Store extension sited to the western side of the main building, approximately 150m long by 42m wide, and 30m high, with two loading docks situated on the south end of the extension.
- **Blast Freezers** – 10 no. blast freezers situated adjacent to the north east corner of the existing cold store building, covering an approximate areas of 60m by 20m.
- **Production Extension** – situated on the southeast corner of the existing cold store.
- **External Works** – a new area of car parking comprising 39 spaces to the south of the main extension building, with an additional car parking to the west of the main extension, and new roadways around the exterior.

All existing buildings on site are to be retained.

10.2 Expected Ground Model

To the west of the main building (area of main extension), the site is underlain by a layer of cohesive Made Ground to between 1.8m and 4.2m bgl, which likely varies as a result of historic infilling, straightening of the stream to the west, and also locally due to removal and backfilling of former ROF structures that existed on the site.

The Made Ground is noted as locally thicker at both TP105 and BH102, both of which are located close to former munitions storage structures, which are indicated as being grubbed out to depths of up to 3m below ground levels that existed at the time. Made Ground is also noted as thicker in BH201 and BH204, which are located near the western edge of the proposed building, closer to the former stream.

To the east of the site (TP102 and BH205) indicates that the Glacial Till Deposits are encountered at depths of 0.4m bgl (beneath the layer of Topsoil or thin Made Ground). Previous GI in this site area also indicates minimal thickness of Made Ground.

It should be noted that the proposed Production Extension on the southeast corner of the building, is also close to a former ROF structure, and deeper Made Ground may be encountered close to the southern extents of the proposed structure.

The Made Ground on the site is underlain by Glacial Till Deposits, which typically comprised a cohesive material, with more granular sandy bands and layer noted throughout the sequence. The granular layers frequently contained groundwater, and subsequent groundwater monitoring has indicated an artesian or sub-artesian groundwater regime, with groundwater rising close to or above ground level. No groundwater was encountered within the trial pits.

The various exploratory hole locations are indicated on the site constraints and exploratory hole plan in **Appendix A**.

10.3 Excavations

Trial pits were carried out as part of the Jackson Geo Services ground investigation with Made Ground soils and superficial Glacial Till deposits, which were found to be generally stable.

Groundwater was not encountered in any of the shallow trial pits but was encountered within deeper boreholes.

Initial groundwater strikes in the boreholes roughly correlate with the water levels within the adjacent watercourse (approximately 28 – 29m AOD), however at greater depths boreholes encountered artesian groundwater (associated sandy lenses within the Glacial Till deposits) with groundwater rising to ground levels or above.

Due to the typical depth groundwater was encountered, shallow excavations (within 2m of the ground surface) are unlikely to encounter groundwater, but deeper excavations that intersect with sandy horizons within the Glacial Till deposits may encounter rising groundwater levels and be unstable, and dewatering would be required in those cases. Running sands may also be encountered in deeper excavations. Artesian groundwater is not expected to affect shallow excavations due to the depth these were typically encountered.

Excavation works should be achievable using a standard mechanical plant with toothed buckets. No significant obstructions where encountered within the Made Ground or Glacial Till, and no buried structures or former foundations were encountered. However, given the past development of the site, it is possible that such below ground structures could be encountered during development works, particularly during anticipated piling works.

At the time of writing this report, proposed site levels were yet to be finalised. However, given the topography of the site and proposals, extensive earthworks are not considered likely.

Where temporary excavation works are required within the Made Ground and Glacial Till deposits, these will need to be assessed for stability, but are likely to remain stable in the short-term to 1 m depth. Shoring will be required where manned entry is required into excavations >1 m and is considered necessary to prevent collapse of excavations.

Consideration should be made for traditional de-watering techniques such as sump and pump techniques, where excavations extend beyond 2.0mbgl, in accordance with guidance given in the CIRIA Report C750 groundwater Control – design and practice and in conjunction with shoring. It should be noted discharge consents should be in place prior to commencing such works.

10.4 Foundation and Floor Options

The following section provides likely foundation options for the various structures based on the expected ground model.

Main Extension Building

Given the depths of Made Ground encountered across the footprint of the Main Extension and the Main Plant Building structure (from ground level to between 1.8-4.2m bgl), and the limited bearing capacity of the Glacial Till deposits, pad foundations are not considered appropriate here, and a suspended floor slab is required. Piles or ground improvement methods may be considered as potential options.

Specific loadings for this structure are currently unknown, but discussions with the structural engineers indicate that piles with a capacity of between 500-750kN are likely to be required here.

For the purposes of this report, CFA piles are considered to be the preferred option, as driven piles in close proximity to the existing structures (which are to remain in use during development) are likely to cause unacceptable levels of noise and vibration. Piles would be embedded and bear into the underlying Glacial Till deposits, which extend to depths of at least 25m bgl. Driven piles are also unlikely to provide sufficient capacity, given the ground conditions encountered.

The geotechnical properties of the Glacial Till were derived from projected values outlined in **Section 6.0**. We would assume CFA piles would likely be required to diameters of approximately 450 to 600mm.

All actions are to be factored using a series of design partial factors, which must be applied, derived from Eurocode 7 and are laid out below itemised as permanent and variable actions:

Table 19: Eurocode partial factors for column loads

Eurocode 7 Partial Factors				
			Design Approach 1	
Item		Notation	Combination 1	Combination 2
Permanent Actions	Favourable	γ_{gfav}	1.00	1.00
	Unfavourable	γ_{G}	1.35	1.00
Variable Actions	Favourable	γ_{qfav}	0.00	0.00
	Unfavourable	γ_{Q}	1.50	1.30

Design Axial compressive loads on a pile or a group of piles ($F_{c:d}$) shall be designed by the piling specialist using the above factors.

The properties and parameters used in this assessment have been factored in accordance with BS EN 1997-1:2004+A1:2013. For bored piles, resistance values for the base and shaft having been factored by the partial factors of γb= 2.0 and γs = 1.6. A model factor of 1.4 has also been used.

Assuming a 600mm diameter bored concrete pile, with a 20m embedment into the Glacial Till deposits and assuming 4m of Made Ground (and therefore a pile length of 24m), and a shaft resistance of 439kN, this would provide an approximate design compressive resistance of 509kN.

A preliminary summary of pile capacities and pile sizes (450 mm and 600 mm) has been provided below.

Table 20. Summary of outline CFA Pile Capacities

Pile Diameter (mm)	Pile Length (m)	Design Shaft resistance (Rs:d) (kN)
450	24	330
600	24	440

The above estimates are for initial appraisal purposes only, and not be adopted for final design purposes. It is recommended that definite values of bearing capacity be obtained from piling contractors, for their specific piles, and that all piles are designed in accordance with Eurocode 7.

A structural engineer should ensure that the strength of the pile shaft is greater than the design resistances provided in this report.

Given the above likely capacities multiple piles would be required per pile cap.

Piles in excess of current borehole depths are likely to be necessitated. Whilst piling contractors may request deeper boreholes than the 25m depth already achieved, ground conditions below this are currently unknown, but are not anticipated to get markedly worse with depth. Therefore, it may be acceptable for preliminary pile designs to be confirmed through static testing ahead of mobilisation for the main works. The advice of specialist piling contractors should be taken at the earliest opportunity to assess the implications and available options with respect to the carrying capacity of the piles within the ground identified in this ground investigation.

Given the likely depth of piles required at the site, the pile capacity will be generated through skin friction only which will govern the settlement characteristics of the pile. Pile load tests are considered necessary to confirm pile performance, especially if settlement tolerances are tight.

Given the ground and groundwater conditions encountered, necking of the piles within the saturated sand strata encountered is also a potential risk, and appropriate measures will need to be employed by the piling contractor to mitigate this.

Given the poor ground conditions encountered within the underlying Glacial Deposits, further consideration may also be given to ground improvement methods, and it is recommended that discussions with ground improvement contractors are undertaken to determine the viability and capacity of ground improvement methods here.

<u>Production Extension and Blast Freezers</u>

To the east of the main building, the Made Ground has either been determined to be absent (in the case of TP102), or to depths of only 0.4m bgl (in the case of BH205), and is expected to be much thinner across this side of the site, based on previous historic GI and other evidence.

For the Production Extension and Blast Freezers, pad foundations bearing into the Glacial Till deposits are expected to be suitable to carry foundation loads.

Depending on the proposed loading of the above structures, shallow foundations comprising 1m square pad foundation at 1.5 m depth, within the Glacial Till will achieve an allowable net bearing capacity of approximately 150kPa, which has been subject to a check on settlement (and limited to less than 25mm).

It is noted that the south edge of the Production Extension building and Blast Freezers will sit close to an area where a former ROF building was situated, and anecdotal evidence indicates that made ground may be locally deeper here. This will need to be confirmed by inspection during construction, and foundation design altered to suit, as necessary.

Depending upon confirmation of the anticipated slab loadings, slabs for these two structures can be ground bearing, assuming any thin layers of Made Ground are stripped prior to the construction of the slab. Floor designers will need to consider the high plasticity nature of the underlying strata and design slabs accordingly.

Proof rolling of slab formation level is recommended to ensure no soft spots remain.

10.5 Retaining Structures

Significant retain structures are not anticipated here and are not considered further.

10.6 Earthworks

At present, earthworks and cut and fill model for the site indicates cut from below the northern extent of the main extension and fill to the southern end. Earthworks design will be undertaken separately.

General comments are provided below on suitability of site soils for earthworks purposes.

The made ground and Glacial Till materials have been compared to the requirements of the Specification for Highways Works, Series 600 – Earthworks - Manual of Contract Documents for Highways Works, Volume 1.

Both the made ground deposits and the Glacial Till material would typically be classified as a Class 2A wet cohesive fill or Class 2B dry cohesive general fill material, based on the grading analysis undertaken.

These materials would also be classified as select cohesive fill Class 7A from a grading assessment only.

Compaction testing was carried out one sample from Made Ground and one from the Glacial Till deposits. These tests were conducted using a 2.5kg rammer after samples were oven dried, in accordance with BS1377, and are summarised on the table below.

Table 21. Summary of Compaction Results

Hole ID	Depth bgl (m)	Material	Strata	Natural MC (%)	OMC (%)	Max Dry Density (Mg/m^3)	Degree of Compaction based on Natural Moisture Content (%)
TP102	0.5 – 0.8	Brown silty CLAY	Glacial Till	21	15	1.7	94%
TP104	06 – 0.8	Brown gravelly silty CLAY	Made Ground	21	15	1.69	94%

Note: MG – Mage Ground, RS – Residual Soil

Based on the above results, at natural moisture content the material can be expected to reach a degree of compaction of around 94%. Should these materials be intended for use as fill material, it will need to undergo moisture treatment to bring the natural moisture content in line with the OMC.

As outlined in the Series 600 Earthworks specification, any site won superficial material can be compacted in accordance with Tab 6/4 Method 1 / 2 for general fill uses.

10.7 Pavement Design

A total of 6 no. TRL Dynamic Cone Penetrometers (DCP) tests were undertaken by Jackson Geo Services (TRL101-TRL106) undertaken from ground level to a maximum depth of 0.95m bgl to correlate the California Bearing Ratio (CBR). This correlation was conducted in accordance with the Interim Advice Note 73/06 Revision 1 (2009), design Guidance for Road Pavement Foundations (Draft HD25). The derived CBR vs depth graph is presented in Figure 22 below.

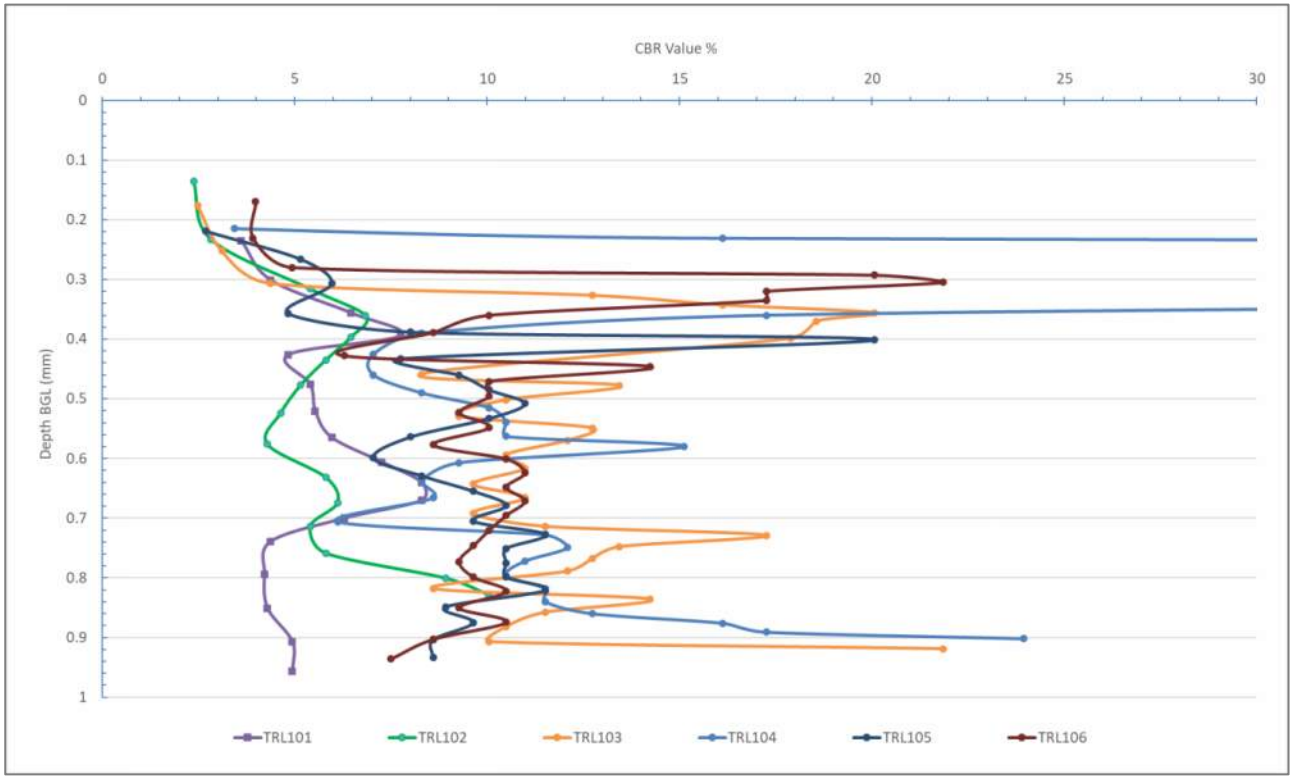


Figure 22: CBR vs Depth correlated from DCP testing

Between ground level and 0.2 m depth bgl the test probe typically penetrated the soils under the weight of the equipment, this represents the topsoil material, from 0.20m bgl CBR values were observed to range between 2% and in excess of 30%, with an average value of 14%.

Below 0.4 m depth, CBR values are observed to cluster between 5 - 10%.

Based on the above, and with consideration of the groundwater conditions and cohesive nature of the shallow soils, a preliminary (equilibrium) design CBR value of **4%** can be assumed for the subgrade material (assuming 300 mm topsoil stripping), and a restricted approach can be adopted for the site.

Where localised soft spots are encountered with a CBR value of less than 2%, improvement works are likely to be required. Improvement works should be carried out in accordance with DMRB IAN 73/06 Rev 1 Chapter 5. In summary, consideration may be given to the following potential remedial techniques:

- excavation and re-engineering or replacement of weaker soils;
- the inclusion of geosynthetic reinforcement within the unbound layers of the capping and sub-grade;
- where cohesive soils are present and they are deemed suitable for treatment with hydraulic binders;
- to employ modification and/or stabilisation techniques on the formation; and
- where granular soils are present, de-watering and re-engineering the formation.

Notwithstanding, any site investigation can, by its very nature, only sample the soils at discrete locations within the site. Variability is inevitable and this should be included for in the design of the works.

10.8 Protection of Buried Concrete

BRE-SD1 concrete aggressivity testing was carried out on 10 no. samples in total, within the made ground, 5 no. samples within the made ground and 5 no. with the Glacial Till, which indicated the following results.

Table 22: Summary of BRE-SD1 Concrete Sulphate Class Assessment

Hole ID	Depth (mbgl)	Material	pH	2:1 Water Soluble Sulphate (mg/l)	Acid Soluble Sulphate (%)	Total Sulphur (%)	Total Potential Sulphate (SO4%)	DS Class	ACEC Class
Made Ground									
BH101	1.2 – 1.65	Clay	8.0	0.013	0.039	0.076	0.228	DS-1	AC-1
BH102	2.5	Clay	8.0	<0.01	0.054	0.058	0.174	DS-1	AC-1
TP105	1.5 - 1.8	Clay	8.3	<0.01	0.36	0.049	0.147	DS-1	AC-1
TP101	0.5 - 0.7	Clay	8.2	<0.01	0.055	0.035	0.105	DS-1	AC-1
TP104	3.0 - 3.2	Clay	8.3	<0.01	0.033	0.029	0.087	DS-1	AC-1
Glacial Till									
BH101	8.0	Clay	8.5	0.022	0.024	0.075	0.225	DS-1	AC-1
BH101	15 – 15.45	Loam	8.2	0.024	0.026	0.052	0.156	DS-1	AC-1
BH102	3.7	Clay	8.4	<0.01	0.011	0.013	0.039	DS-1	AC-1
TP102	1.0 – 1.3	Clay	8.4	0.22	0.081	0.036	0.108	DS-1	AC-1
TP102	3.0 – 3.5	Clay	8.3	0.32	0.15	0.044	0.132	DS-1	AC-1s

Based on the design sulphate class, characteristic value of pH and assessment of groundwater mobility, and with reference to table C2 of BRE Special Digest: 2005, the ACEC class for each soil type is presented below. Groundwater has been assumed to be mobile.

Concrete placed within the various materials has the following concrete Design Sulphate (DS) Class and Aggressivity Chemical Environment for Concrete (ACEC) Class:

- Made Ground – DS-1 AC-1
- Glacial Till – DS1 AC-1

10.9 Infiltration Drainage

A soakaway tests were conducted in TP101. However, this failed to drain, and no appreciable water level change was observed during the testing, and therefore an infiltration rate could not be determined.

Given the generally cohesive nature of the made ground and Glacial Till deposits encountered, the soils at the site are not considered suitable for infiltration drainage, and an alternative design using off site discharge should be considered.

11 Geotechnical Risk Register

A Geotechnical Risk Register is a method of identifying hazards which may arise during the construction phase of works based on the data currently obtained for the site. The register is a work in progress and as further information arises, it should be updated in order to quantify the risk. At this stage, the aspects covered by the register are attributed to Cost and Health and Safety, although as site works commence, programme may become a prominent factor.

A Ground Risk Register that was started at the commencement of the ground investigation is contained within **Appendix H.**

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Appendix A – Drawings



Exploratory Hole Locations

- Borehole
- Dynamic Cone Pentration (DCP) Test
- Hand Dug Trial Pit
- Trial Pit

Site Historic Constraints

- Pre 1940's Stream Alignment
- Historic Ponds
- Historic Fill Areas
- Former ROF Structures

Rev	Date	Description	By	Apvd
P3	18/02/25	Revised layout	PW	PW
P2	03/06/24	Preliminary Issue	DW	PW

PROJECT:
Norish Wrexham Cold Store

TITLE:
Exploratory Hole Location and Constraints Plan

CLIENT:
TSL

SCALE@A1:
1:400

PROJECT REF:
23284

DRAWING NO: 23284-JCE-XX-XX-DR-G-600

REV: P03

Revision Referencing
P = Preliminary A = Approval T = Tender C = Construction

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St James Court, St James Parade, Bristol BS1 3LH
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N

Fire Road

Proposed Main Plant Building

Existing Cold Store Building

Existing Low Bay Marshalling

Existing Maintenance Corridor

Existing Offices

Existing Loading Docks

Existing Dawson Units

Proposed High Bay Racking

Fire Road

14 Overspill Car Parking Spaces

Proposed Link Corridor

Proposed Low Bay Marshalling

Proposed Loading Docks

Level Access

Existing Service Yard

39 Car Parking Spaces

Existing Office

Production Extension

Production Extension Corridor

10 Blast Freezers

New Access Road

7000 mm

18022 mm

HGV Parking

Turning Head

Car Access & Egress

HGV Access & Egress

1 GA Site Plan - Overall
1 : 250

0m 5m 10m 15m 20m 25m
VISUAL SCALE 1:250

REV	DATE	DESCRIPTION	DRAWN BY	CHECK BY
P15	2025-01-15	Drawings updated for Section 73 submission	RND	RAA
P14	2024-12-16	External door (NB-00-22) omitted from new Low Bay	RND	RAA
P13	2024-11-13	Drawings updated for Section 73 submission	RND	RAA
P12	2024-09-13	Drawing pack updated following confirmation of Plant & Production Extension layout	RND	RAA
P11	2024-07-17	Updated following review	RND	RAA
P10	2024-07-04	Updated following comments	RND	RAA
P09	2024-06-19	Scheme updated	RND	RAA
P08	2024-03-15	Issued for full Planning	RAA	-
P07	2024-02-16	Issued for Planning	RAA	-
P06	2024-02-15	Updated line with comments from meeting dated 2024-02-14	RAA	-
P05	2024-02-12	Updated with building survey and minor alterations to fences	RAA	-
P04	2024-02-05	Bollards, barriers and additional details added	RAA	-
P03	2024-01-30	Site layout updated	RAA	-
P02	2024-01-18	Site layout updated	RAA	-
P01	-	Initial Drawing Issue	-	-

REVISIONS

PROJECT TITLE
Project Sakura

DRAWING TITLE
GA Site Plan - Overall

RIBA STAGE	STATUS		DRAWN BY	CHECKED BY
3	PLANNING		RAA	-
SHEET	SCALE	DATE	SUITABILITY	REVISION
A0	1 : 250	2024-01-15	S2	P15

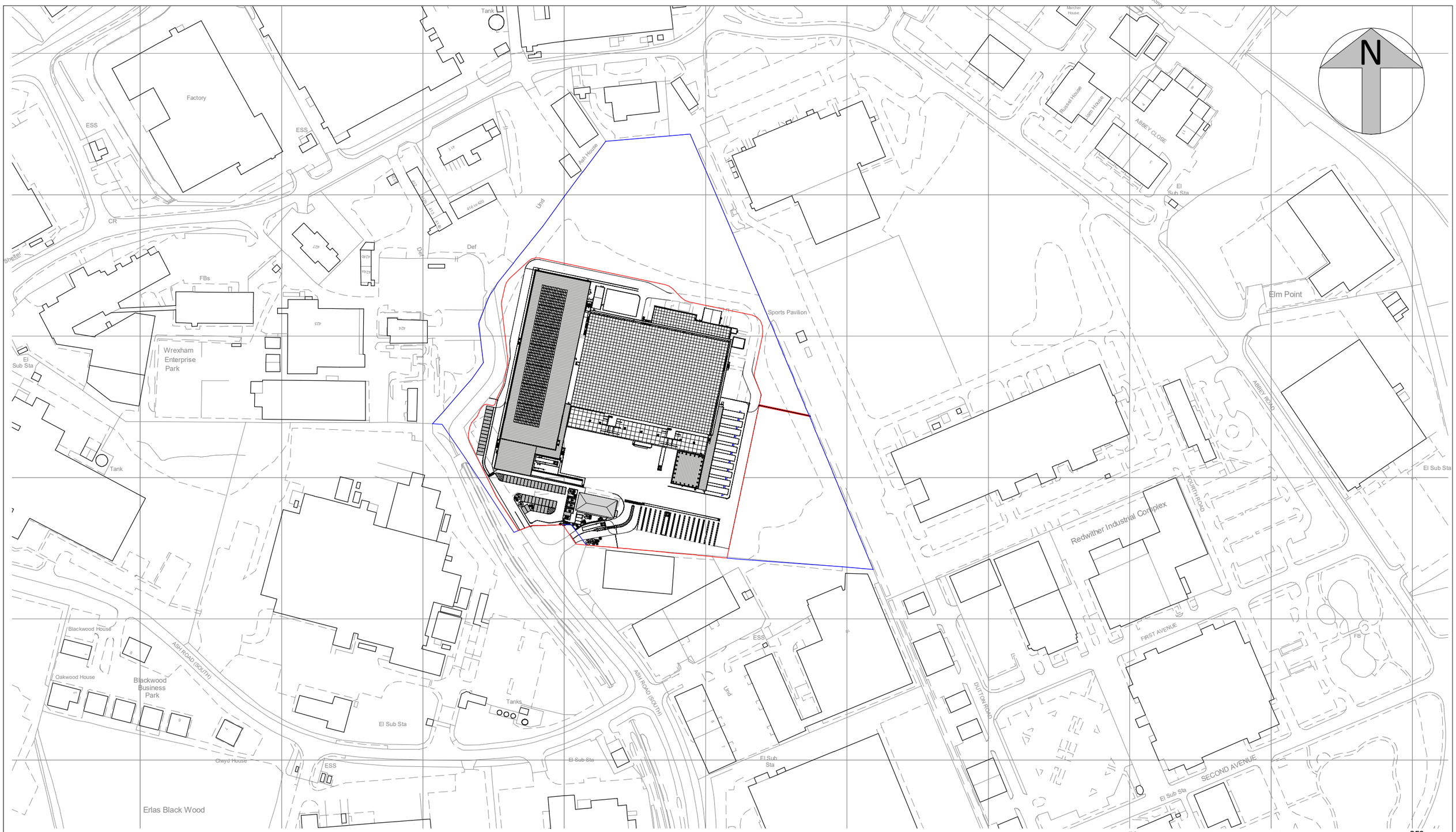
DRAWING NO.
TCSW - ASA - 90 - VS.ZZ - D - A - 9003 _ (S2 - P15)

BIM MODEL NUMBER: TCSW-ASA-ZZ-VS.ZZ-M3-A-0001_(S0-P05)

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TSL
Thermotraffic®
TEMPERATURE CONTROLLED LOGISTICS

AshtonSmith
Beyond Design
Ashton Smith, Belvedere House, 2 Victoria Avenue, Harrogate, North Yorkshire, HG1 1EL
Tel: 01423 522882 Fax: 01423 565104
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JOB NO. 21158



VISUAL SCALE 1:2500

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LOCATION PLAN

NOTES

Application site - 33,368m² / 3.34 Hectares

Extent of land under same ownership
Overall site area - 56,862m² / 5.69 Hectares

REV	DATE	DESCRIPTION	DRAWN BY	CHECK BY
P01	2025-01-15	Drawing produced for Section 73 submission	RND	RAA

REVISIONS

PROJECT TITLE
Project Sakura

DRAWING TITLE
Site Location Plan - Proposed

RIBA STAGE	STATUS	DRAWN BY	CHECKED BY
3	PLANNING	RAA	-

SHEET	SCALE	DATE	SUITABILITY	REVISION
A3	1 : 2500	2024-01-15	S2	P01

DRAWING NO.
TCSW - ASA - 90 - VS.ZZ - D - A - 9020 _ (S2 - P01)

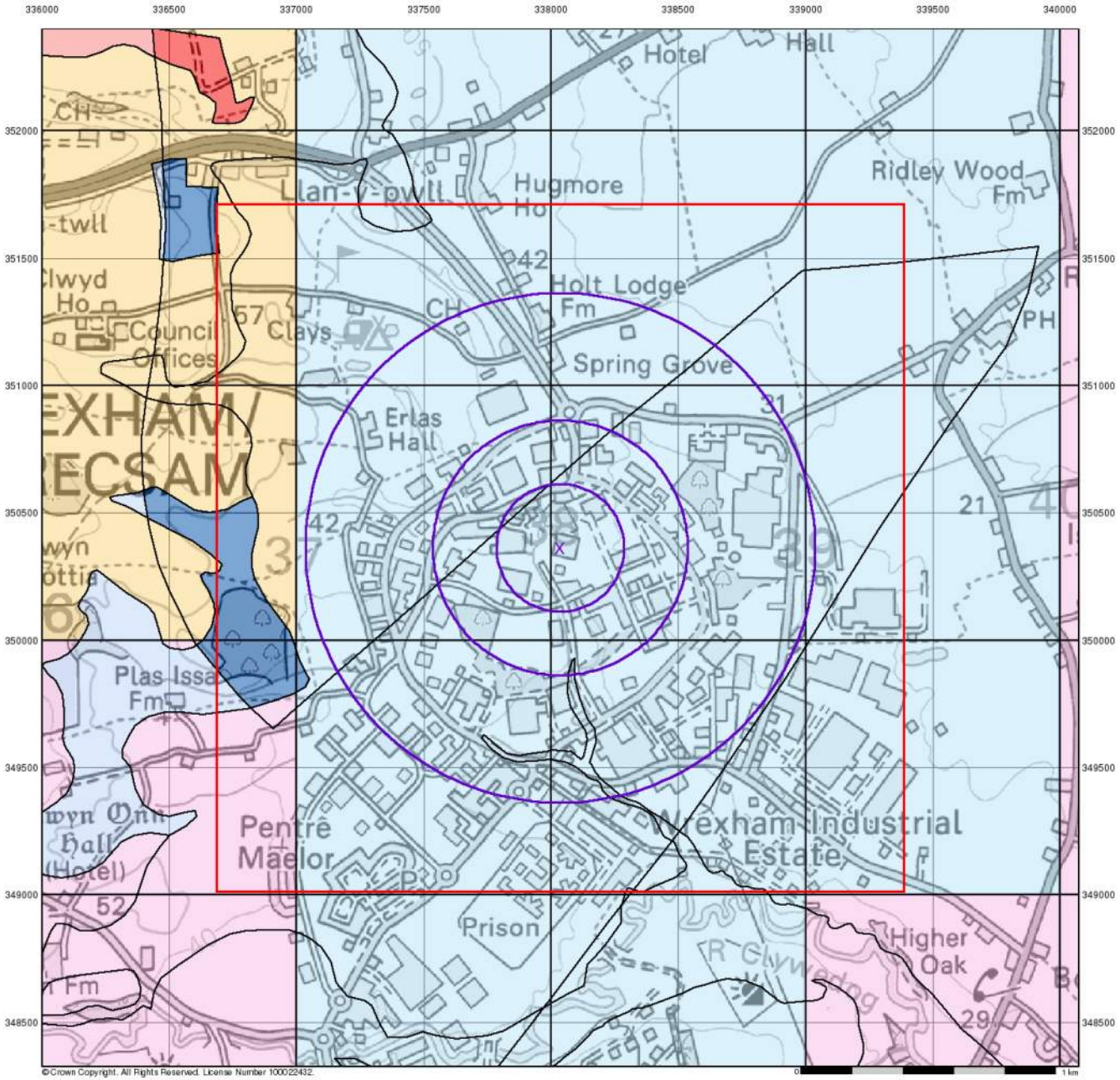
BIM MODEL NUMBER: TCSW-ASA-ZZ-VS.ZZ-M3-A-0001_(S0-P05)

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Appendix B - Envirocheck Report



Groundwater Vulnerability

General

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

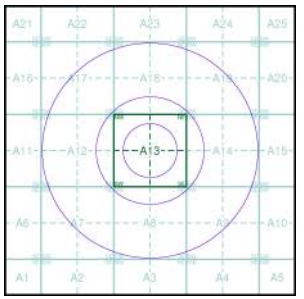
Agency and Hydrological

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

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



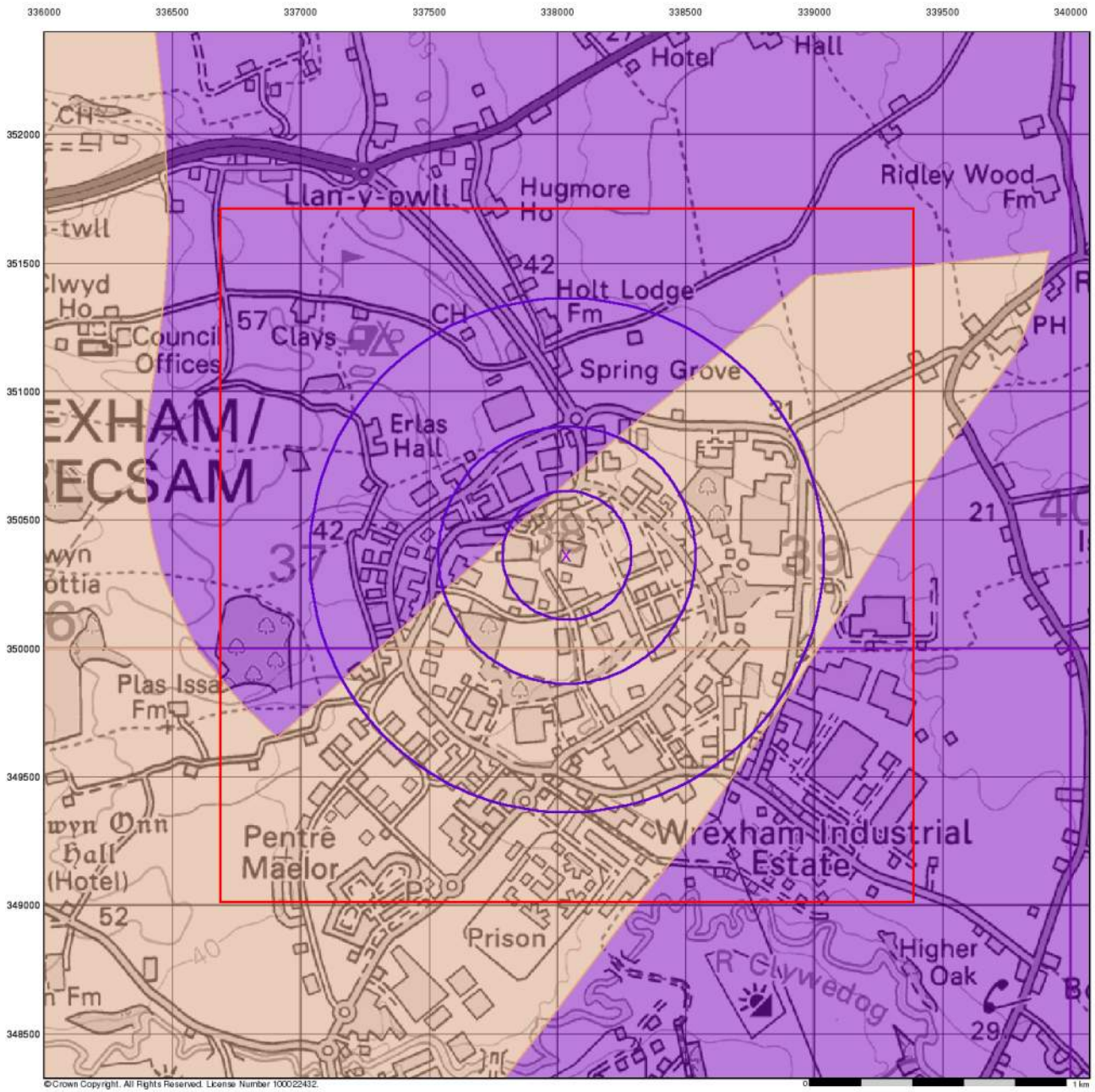
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG

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Bedrock Aquifer Designation

General

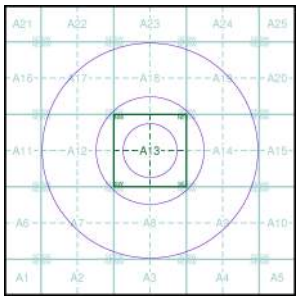
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



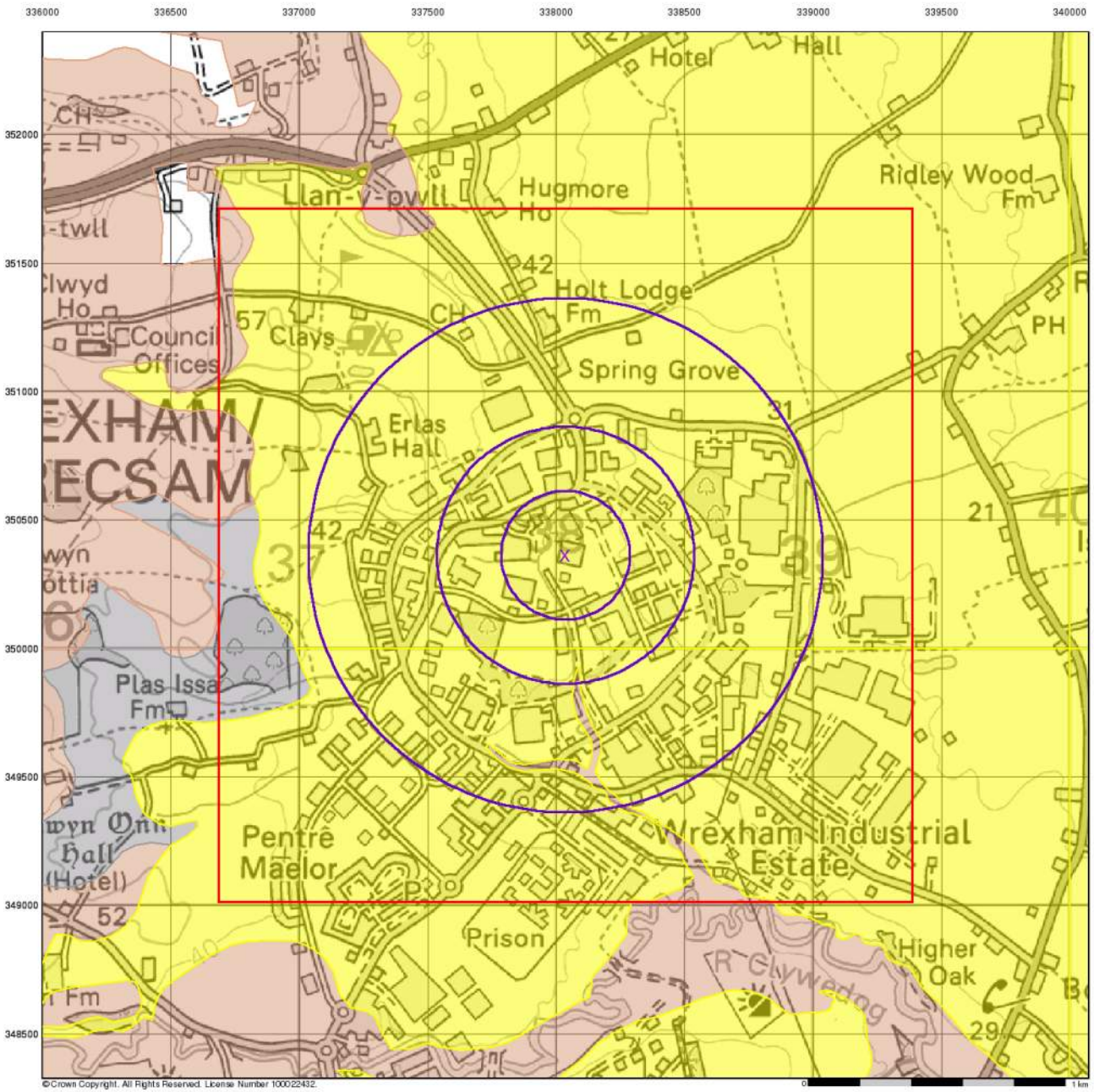
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Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

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Superficial Aquifer Designation

General

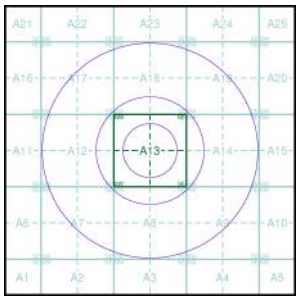
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



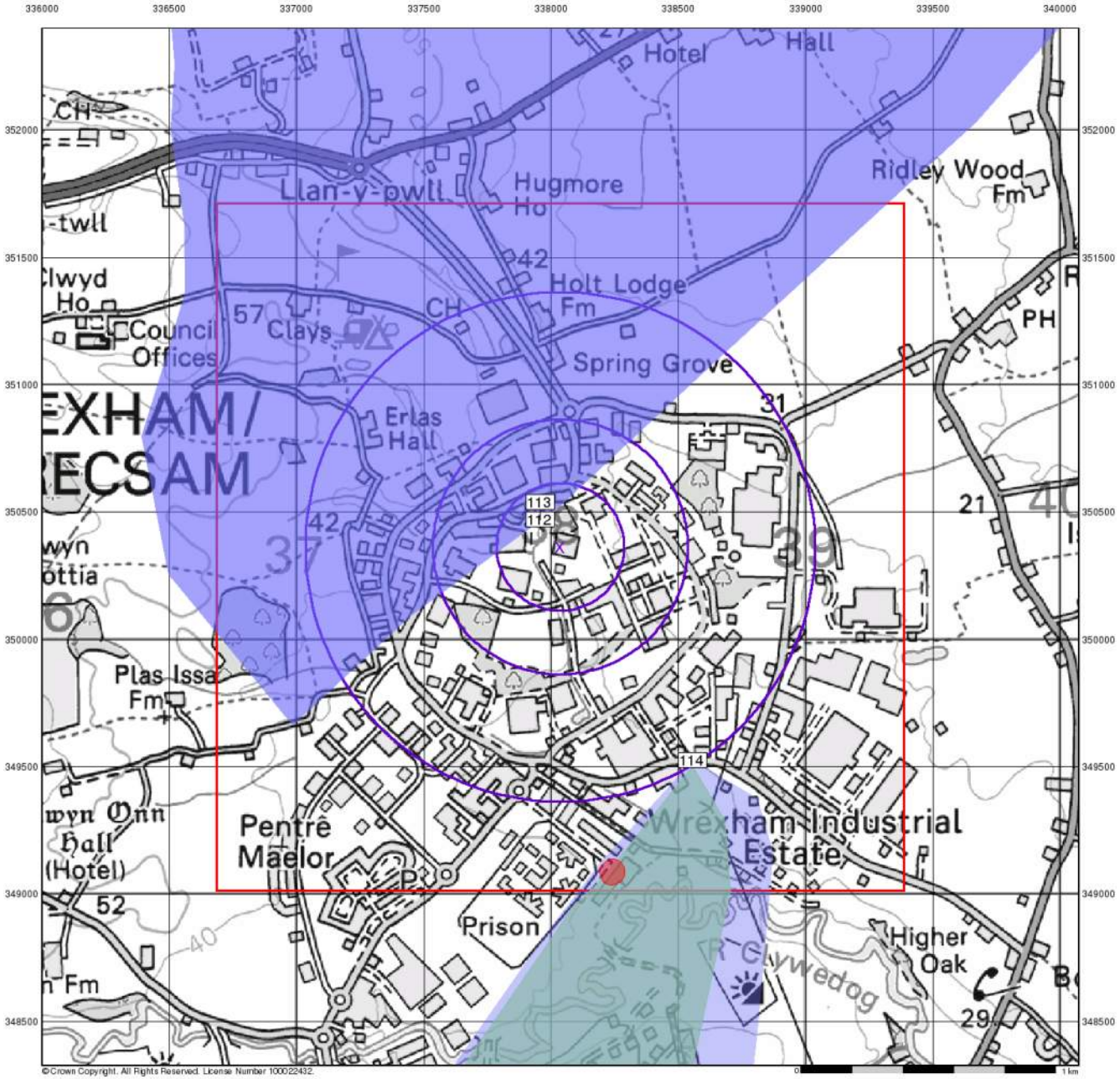
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Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

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Source Protection Zones

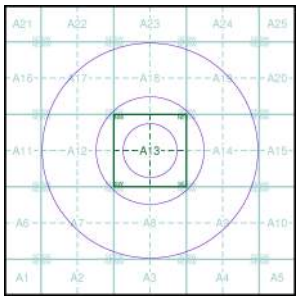
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



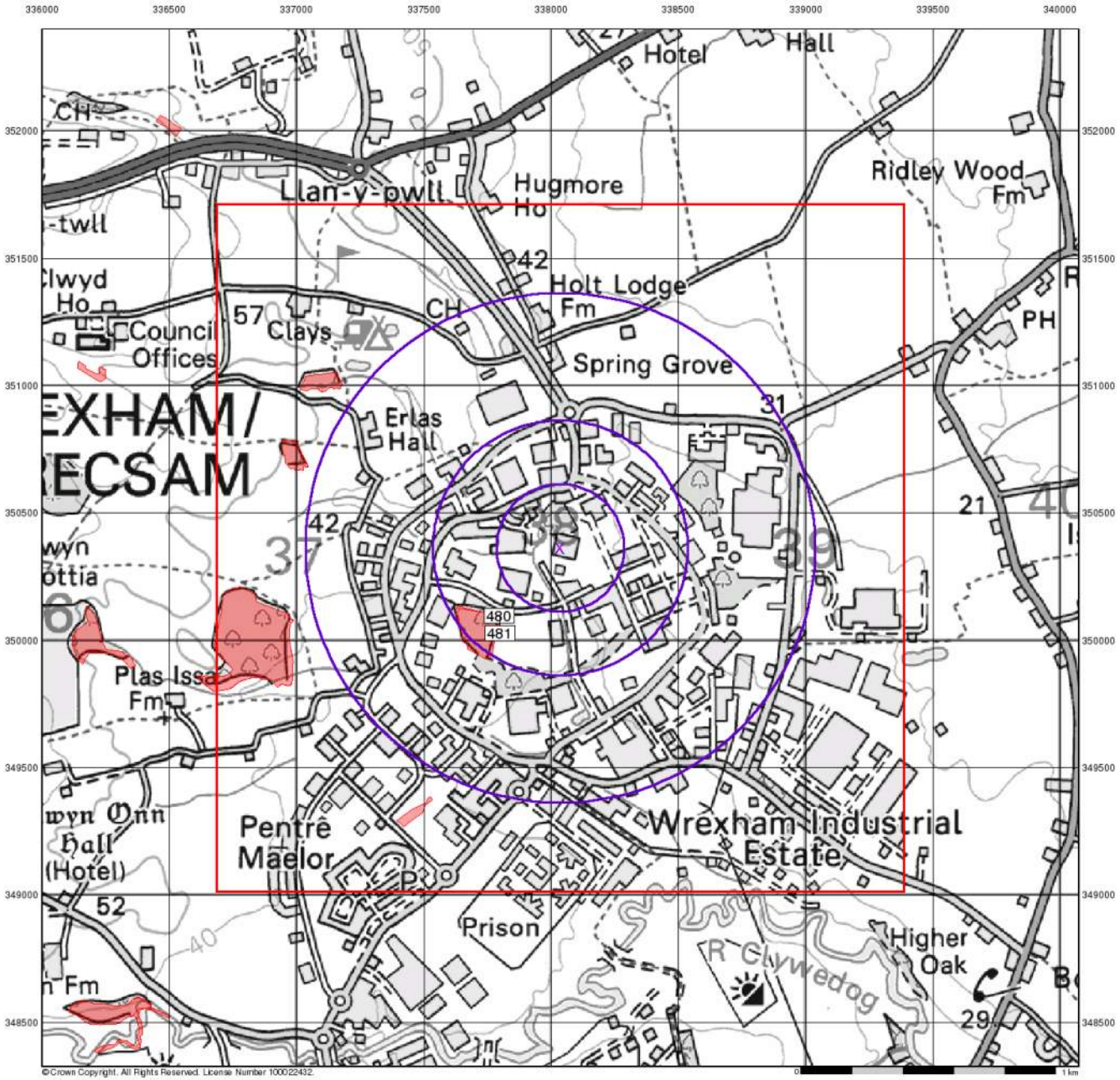
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Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

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Sensitive Land Uses

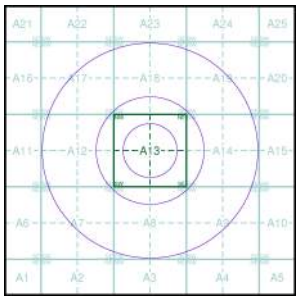
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A

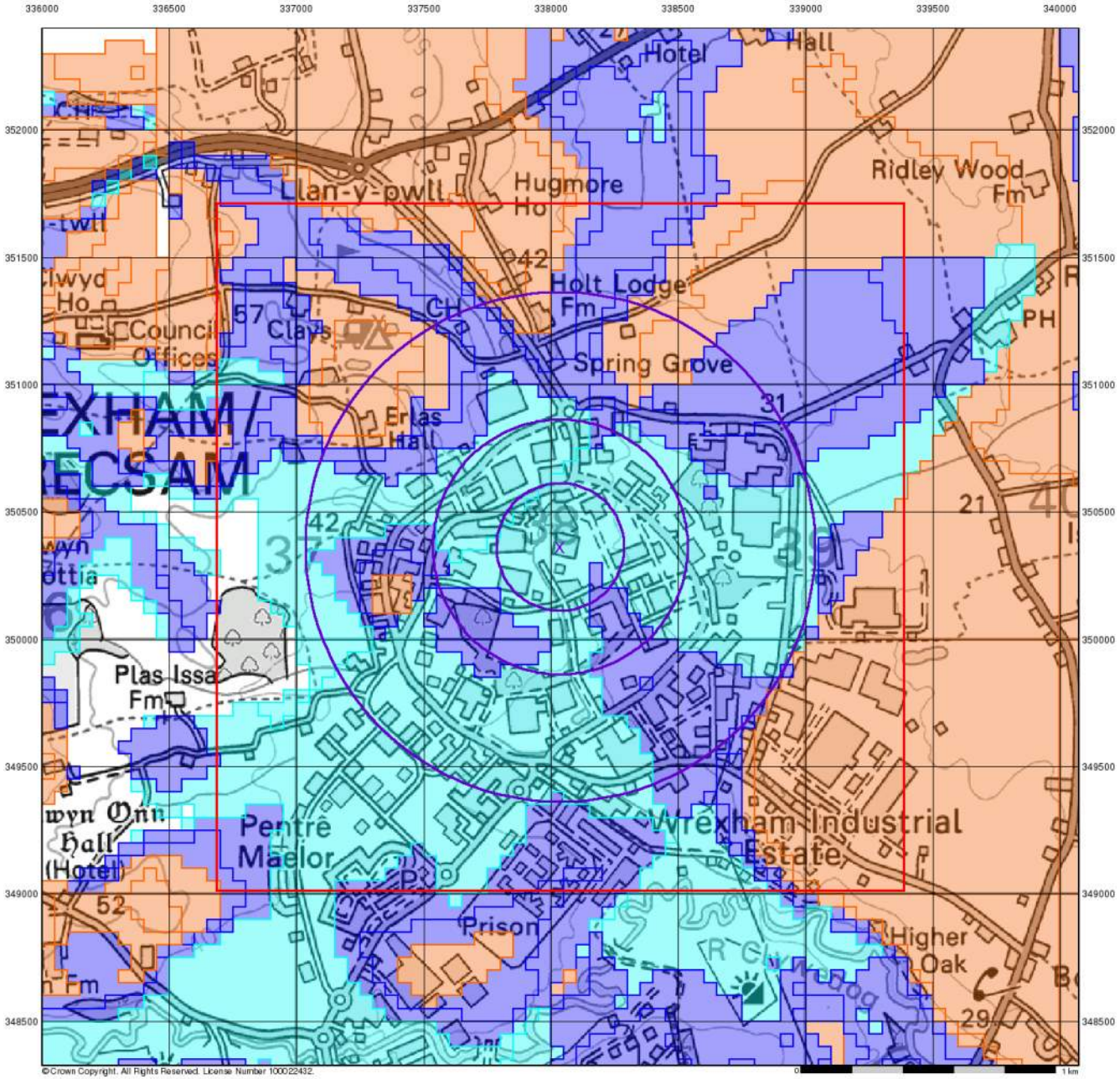


Order Details

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Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

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BGS Flood GFS Data

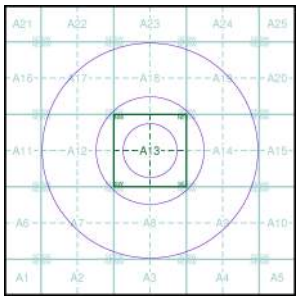
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

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Datasheet

Order Details:

Order Number:
330630143_1_1

Customer Reference:
23284

National Grid Reference:
338040, 350360

Slice:
A

Site Area (Ha):
0.01

Search Buffer (m):
1000

Site Details:

Norish Foodcare, Ash Road South
Wrexham Industrial Estate
WREXHAM
LL13 9UG

Client Details:

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Jubb Consulting Engineers Ltd
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Longbridge Road
Plymouth
PL6 8LR

Contents

Report Section	Page Number
Summary	-
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Waste	56
Hazardous Substances	-
Geological	71
Industrial Land Use	73
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Data Suppliers	108
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Introduction

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

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Report Version v53.0

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1		1	10	28
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices	pg 11				3
Integrated Pollution Controls	pg 12				7
Integrated Pollution Prevention And Control	pg 13		3	7	24
Local Authority Integrated Pollution Prevention And Control	pg 21			2	3
Local Authority Pollution Prevention and Controls	pg 22		2	9	10
Local Authority Pollution Prevention and Control Enforcements	pg 25			1	1
Nearest Surface Water Feature	pg 25		Yes		
Pollution Incidents to Controlled Waters	pg 25		4	12	41
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 35				8
River Quality					
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register	pg 36				7
Water Abstractions	pg 37			2	1 (*11)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 40	Yes	n/a	n/a	n/a
Bedrock Aquifer Designations	pg 40	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 40	Yes	n/a	n/a	n/a
Source Protection Zones	pg 41		2		1
Extreme Flooding from Rivers or Sea without Defences	pg 41		Yes	n/a	n/a
Flooding from Rivers or Sea without Defences	pg 41		Yes	n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
OS Water Network Lines	pg 41		11	26	85

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 56				1
Integrated Pollution Control Registered Waste Sites	pg 56				2
Licensed Waste Management Facilities (Landfill Boundaries)	pg 56				2
Licensed Waste Management Facilities (Locations)	pg 56		1		27
Local Authority Landfill Coverage	pg 63	1	n/a	n/a	n/a
Local Authority Recorded Landfill Sites					
Potentially Infilled Land (Non-Water)					
Potentially Infilled Land (Water)	pg 63		6	11	49
Registered Landfill Sites	pg 67				2
Registered Waste Transfer Sites	pg 67				1
Registered Waste Treatment or Disposal Sites	pg 68				6
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 71	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 71	Yes	Yes		Yes
BGS Recorded Mineral Sites					
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas	pg 71	Yes	n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 71	Yes		n/a	n/a
Potential for Compressible Ground Stability Hazards	pg 71	Yes		n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 71	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 71	Yes		n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 72	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 73		30	68	138
Fuel Station Entries	pg 94				1
Points of Interest - Commercial Services	pg 94		5	8	14
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 97		1	6	27
Points of Interest - Public Infrastructure	pg 99				10
Points of Interest - Recreational and Environmental					
Gas Pipelines					
Underground Electrical Cables					

Summary

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland	pg 101			2	
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones					
Ramsar Sites					
Sites of Special Scientific Interest					
Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (NE)	0	1	338035 350363
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	131	1	338150 350300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	193	1	337900 350500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SW (SW)	287	1	337800 350200
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A8NE (S)	364	1	338035 350000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NW (S)	365	1	338000 350000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A8NE (SE)	399	1	338200 350000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A18SE (N)	404	1	338150 350750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	436	1	337600 350350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A12SE (W)	499	1	337550 350250
1	**Discharge Consents** Operator: Royalite Plastics Ltd Property Type: Undefined Or Other Location: Wrexham Ind.Est. British Celanese S, British Celanese Site Superseded, Superseded By Cm01347.01 Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0052201 Permit Version: 1 Effective Date: 17th October 1968 Issued Date: 17th October 1968 Revocation Date: 26th February 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Un-Named Trib Of Redwither Bro **Status:** **Consent expired** Positional Accuracy: Located by supplier to within 100m	A13SW (W)	244	2	337800 350300
2	**Discharge Consents** Operator: Caparo Steel Products Ltd Property Type: Insulated Wires & Cables Location: Caparo Steel Products Ltd Ash Road, Ash Road North, Wrexham Ind Estate Wrexham, Ll13 9jt Authority: Natural Resources Wales Catchment Area: River Dee Reference: CM0207601 Permit Version: 2 Effective Date: 7th November 1995 Issued Date: 6th November 1995 Revocation Date: Not Supplied Discharge Type: Miscellaneous Discharges - Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Clvrtd Sctn Of Trib Of Redwith **Status:** **New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	317	2	337750 350500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
2	**Discharge Consents** Operator: Caparo Steel Products Ltd Property Type: Not Supplied Location: Caparo Steel Products Ltd Ash Road, Ash Road North, Wrexham Ind Estate Wrexham, Ll13 9jt Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0207601 Permit Version: Not Supplied Effective Date: 7th November 1995 Issued Date: 6th November 1995 Revocation Date: Not Supplied Discharge Type: Miscellaneous Discharges - Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Clvrtd Sctn Of Trib Of Redwith **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	317	2	337750 350500
2	**Discharge Consents** Operator: Caparo Steel Products Ltd Property Type: Insulated Wires & Cables Location: Caparo Steel Products Ltd Ash Road, Wrexham Ind Estate, Wrexham, Ll13 9jt Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0069301 Permit Version: 1 Effective Date: 17th February 1972 Issued Date: 17th February 1972 Revocation Date: 6th November 1995 Discharge Type: Trade Effluent Discharge Environment: Not Supplied Receiving Water: Un-Named Trib. Of Redwither Br **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	357	2	337720 350530
3	**Discharge Consents** Operator: Caparo Steel Products Ltd Property Type: Insulated Wires & Cables Location: Caparo Steel Products Ltd Ash Road, Ash Road North, Wrexham Ind Estate Wrexham, Ll13 9jt Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0207601 Permit Version: 1 Effective Date: 6th February 1990 Issued Date: 6th February 1990 Revocation Date: 6th November 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Clvrtd Sctn Of Trib Of Redwith **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A13NW (W)	347	2	337700 350450
4	**Discharge Consents** Operator: J C B Transmissions Ltd Property Type: Mechanical Power Transmission Location: Jcb Transmissions Ltd Wrexham Ind E, Wrexham Ind Estate Wrexham Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0097601 Permit Version: 1 Effective Date: 25th July 1984 Issued Date: 25th July 1984 Revocation Date: 9th March 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Un-Named Trib. Of Dee **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A13NW (N)	360	2	337910 350700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
5	**Discharge Consents** Operator: J C B Transmissions Ltd Property Type: Mechanical Power Transmission Location: Jcb Transmissions Ltd Wrexham Ind E, Wrexham Ind Estate Wrexham Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0097602 Permit Version: 1 Effective Date: 25th July 1984 Issued Date: 25th July 1984 Revocation Date: 14th July 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Un-Named Trib. Of Dee **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A18SW (N)	369	2	337910 350710
6	**Discharge Consents** Operator: Caparo Steel Products Ltd Property Type: Insulated Wires & Cables Location: Caparo Steel Products Ltd Ash Road, Wrexham Ind Estate, Wrexham, Ll13 9jt Authority: Natural Resources Wales Catchment Area: River Dee Reference: CM0069301 Permit Version: 2 Effective Date: 7th November 1995 Issued Date: 6th November 1995 Revocation Date: 24th April 2003 Discharge Type: Trade Effluent Discharge Environment: Not Supplied Receiving Water: Un-Named Trib. Of Redwither Br **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	380	2	337700 350540
7	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Wrexham Ind.Est.Dis.8. Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0093607 Permit Version: 1 Effective Date: 25th August 1982 Issued Date: 25th August 1982 Revocation Date: 28th April 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	458	2	338210 349940
7	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Wrexham Ind. Estate - Discharg Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0093606 Permit Version: 1 Effective Date: 25th August 1982 Issued Date: 25th August 1982 Revocation Date: 28th April 1993 Discharge Type: Miscellaneous Discharges - Surface Water Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	479	2	338190 349910

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
8	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Wrexham Ind.Est.Dis.6 Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0093605 Permit Version: 1 Effective Date: 25th August 1982 Issued Date: 25th August 1982 Revocation Date: 28th April 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	500	2	338160 349880
8	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Wrexham Ind. Estate - Discharg Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0093604 Permit Version: 1 Effective Date: 25th August 1982 Issued Date: 25th August 1982 Revocation Date: 28th April 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	507	2	338150 349870
9	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Wrexham Ind. Estate - Discharg Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0093603 Permit Version: 1 Effective Date: 25th August 1982 Issued Date: 25th August 1982 Revocation Date: 28th April 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	539	2	338110 349830
10	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Wrexham Ind.Est.Dis.2 Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0093602 Permit Version: 1 Effective Date: 25th August 1982 Issued Date: 25th August 1982 Revocation Date: 28th April 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	565	2	338080 349800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Wrexham Ind. Estate - Discharg Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0093601 Permit Version: 1 Effective Date: 25th August 1982 Issued Date: 25th August 1982 Revocation Date: 28th April 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	586	2	338090 349780
11	**Discharge Consents** Operator: Welsh Assembly Government Property Type: Not Supplied Location: Pcb Containment Cell Marlborough Ro, Marlborough Road, Wrexham Industrial Estate, Wrexham Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cm0149901 Permit Version: Not Supplied Effective Date: 24th August 2005 Issued Date: 23rd August 2005 Revocation Date: Not Supplied Discharge Type: Trade And Other Matter Discharge Discharge Environment: Freshwater Stream/River Receiving Water: Redwither Brook **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	595	2	338150 349780
11	**Discharge Consents** Operator: Welsh Development Agency Property Type: Other Electronic Equipment Location: Pcb Containment Cell Marlborough Ro, Marlborough Road, Wrexham Industrial Estate, Wrexham Authority: Natural Resources Wales Catchment Area: River Dee Reference: CM0149901 Permit Version: 2 Effective Date: 28th March 1995 Issued Date: 28th March 1995 Revocation Date: 23rd August 2005 Discharge Type: Trade Effluent Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: New Consent, by Application (Water Resources Act 1991, Section 88)** Positional Accuracy: Located by supplier to within 100m	A8NE (S)	595	2	338150 349780
12	**Discharge Consents** Operator: Kellogg Co Of Great Britain Ltd Property Type: Starch Location: Bryn Road Wrexham Ind Est Authority: Natural Resources Wales Catchment Area: River Dee Reference: CM0097401 Permit Version: 3 Effective Date: 6th July 1994 Issued Date: 6th July 1994 Revocation Date: 9th November 2005 Discharge Type: Trade Effluent Discharge Environment: Not Supplied Receiving Water: Un-Named Trib. Of Dee **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A14NW (E)	666	2	338700 350400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Discharge Consents** Operator: Kellogg Co Of Great Britain Ltd Property Type: Starch Location: Bryn Road Wrexham Ind Est Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0097401 Permit Version: 1 Effective Date: 16th May 1984 Issued Date: 16th May 1984 Revocation Date: 29th September 1985 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Un-Named Trib. Of Dee **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NW (E)	666	2	338700 350400
12	**Discharge Consents** Operator: Kellogg Co Of Great Britain Ltd Property Type: Starch Location: Bryn Road Wrexham Ind Est Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0097401 Permit Version: 2 Effective Date: 30th September 1985 Issued Date: 16th May 1984 Revocation Date: 5th July 1994 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Un-Named Trib. Of Dee **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A14NW (E)	666	2	338700 350400
13	**Discharge Consents** Operator: Welsh Development Agency Property Type: Other Electronic Equipment Location: Pcb Containment Cell Marlborough Ro, Marlborough Road, Wrexham Industrial Estate, Wrexham Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0149901 Permit Version: 1 Effective Date: 13th January 1987 Issued Date: 13th January 1987 Revocation Date: 27th March 1995 Discharge Type: Trade Effluent Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 100m	A8NE (S)	667	2	338100 349700
14	**Discharge Consents** Operator: Unimaq Limited Property Type: Business Services Location: Stp Serving Unit 6 Pacific Park, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LI13 9pn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Eprmp3320gg Permit Version: 1 Effective Date: 2nd December 2011 Issued Date: 2nd December 2011 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Into Land Receiving Water: Groundwater Via Drainage Mound **Status: New issued under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	707	2	338540 349869

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
14	**Discharge Consents** Operator: Unimaq Limited Property Type: OFFICES ADMIN + SUPPORT Location: Stp Serving Unit 6 Pacific Park, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, Ll13 9pn Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Mp3320gg Permit Version: Not Supplied Effective Date: 2nd December 2011 Issued Date: 2nd December 2011 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Into Land Receiving Water: Groundwater Via Drainage Mound **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	707	2	338540 349869
15	**Discharge Consents** Operator: Royalite Plastics Ltd Property Type: Processing Of Plastics Location: Royalite Plastics Ltd. Authority: Natural Resources Wales Catchment Area: Not Given Reference: Cm0134701 Permit Version: 2 Effective Date: 3rd October 1991 Issued Date: 3rd October 1991 Revocation Date: 28th May 1996 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Unknown **Status:** **Consent expired** Positional Accuracy: Located by supplier to within 10m	A12NW (W)	733	2	337305 350422
16	**Discharge Consents** Operator: Royalite Plastics Ltd Property Type: Undefined Or Other Location: Wrexham Ind Estate British Celanese, British Celanese Site Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0001801 Permit Version: 1 Effective Date: 31st January 1966 Issued Date: 31st January 1966 Revocation Date: 26th February 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Trib.Of Redwither Brook **Status:** **Consent expired** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	789	2	338130 349580
17	**Discharge Consents** Operator: Manweb Plc Property Type: SUB-STATION/ELECTRICITY/GAS/AIR CONDITIONING SUPPLY Location: Marchwiel Abbey Rd 33kv Sub-Station Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CM0015701 Permit Version: Not Supplied Effective Date: 16th April 1963 Issued Date: 16th April 1963 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge Environment: Freshwater Stream/River Receiving Water: Un-Named Trib.Of Redwither Bro **Status:** **Effective** Positional Accuracy: Located by supplier to within 100m	A9NW (SE)	810	2	338500 349700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Discharge Consents** Operator: Ball Packaging Europe Uk Ltd Property Type: Undefined Or Other Location: Continental Can Co Ltd Authority: Natural Resources Wales Catchment Area: River Dee Reference: CM0085401 Permit Version: 2 Effective Date: 9th March 1994 Issued Date: 9th March 1994 Revocation Date: 21st January 2004 Discharge Type: Trade Effluent Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A8SW (S)	838	2	337950 349530
18	**Discharge Consents** Operator: Continental Can Company Ltd Property Type: Undefined Or Other Location: Continental Can Co Ltd Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0085401 Permit Version: 1 Effective Date: 30th April 1979 Issued Date: 30th April 1979 Revocation Date: 8th March 1994 Discharge Type: Trade Effluent Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A8SW (S)	838	2	337950 349530
19	**Discharge Consents** Operator: Norwest Holst Group Property Type: Civil Engineering Location: Wrexham Ind Estate Conren Ltd Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0086201 Permit Version: 1 Effective Date: 4th October 1979 Issued Date: 4th October 1979 Revocation Date: 26th April 1995 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Trib. Of Rewither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 100m	A8SE (S)	866	2	338100 349500
20	**Discharge Consents** Operator: Welsh Development Agency Property Type: Undefined Or Other Location: Wrexham Ind Estate Factory/Coedaben, Factory/Coedaben Road Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0064501 Permit Version: 1 Effective Date: 27th April 1971 Issued Date: 27th April 1971 Revocation Date: 28th April 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Redwither Brook **Status: Consent expired** Positional Accuracy: Located by supplier to within 10m	A8SW (S)	883	2	337850 349500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**Discharge Consents** Operator: G A Allman Property Type: Domestic Property (Single) Location: Unit 2, Little Erlas, Erlas Lane, Abenbury, Wrexham, Ll13 0pe Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CG0337201 Permit Version: Not Supplied Effective Date: 22nd April 1993 Issued Date: 22nd April 1993 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge Environment: Freshwater Stream/River Receiving Water: Redwither Brook **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	903	2	337280 349870
21	**Discharge Consents** Operator: G A Allman Property Type: Domestic Property (Single) Location: Unit 2, Little Erlas, Erlas Lane, Abenbury, Wrexham, Ll13 0pe Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CG0337203 Permit Version: Not Supplied Effective Date: 22nd April 1993 Issued Date: 22nd April 1993 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge Environment: Freshwater Stream/River Receiving Water: Redwither Brook **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	909	2	337260 349890
21	**Discharge Consents** Operator: Richard John Hewitt Property Type: Domestic Property (Single) Location: Unit 2, Little Erlas, Erlas Lane, Abenbury, Wrexham, Ll13 0pe Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: CG0337202 Permit Version: Not Supplied Effective Date: 22nd April 1993 Issued Date: 22nd April 1993 Revocation Date: Not Supplied Discharge Type: Not Supplied Discharge Environment: Freshwater Stream/River Receiving Water: Redwither Brook **Status: Effective** Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	914	2	337260 349880
22	**Discharge Consents** Operator: Wrexham County Borough Property Type: Not Supplied Location: Civic Amenity Site, Bryn Lane, Wrexham Industrial Estate, Wrexham, Ll13 9ut Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cg0421601 Permit Version: Not Supplied Effective Date: 20th August 2004 Issued Date: 20th August 2004 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: An Un-Named Stream **Status: Effective** Positional Accuracy: Located by supplier to within 10m	A14SE (E)	907	2	338892 350068

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
23	**Discharge Consents** Operator: Cpl Petroleum Property Type: Wholesale Distribution Fuels & Metals Location: Cpl Petroleum Bryn Lane Wrexham, Bryn Lane, Wrexham Ind Estate, Ll13 9ut Authority: Natural Resources Wales Catchment Area: Not Given Reference: Cg038250101 Permit Version: 1 Effective Date: 1st July 1999 Issued Date: 1st July 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Is Y Coed Brook **Status:** **New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 100m	A9NE (SE)	910	2	338860 349980
23	**Discharge Consents** Operator: Cpl Petroleum Property Type: Not Supplied Location: Cpl Petroleum Bryn Lane Wrexham, Bryn Lane, Wrexham Ind Estate, Ll13 9ut Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cg0382501 Permit Version: Not Supplied Effective Date: 1st July 1999 Issued Date: 1st July 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharges - Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Is Y Coed Brook **Status:** **Effective** Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	910	2	338860 349980
24	**Discharge Consents** Operator: Mrs Sarah Jones Property Type: Domestic Property (Single) Location: Bryn Villa, Hugmore Lane, Llanypwlll, Wrexham, Wales, Ll13 9ye Authority: Natural Resources Wales Catchment Area: Not Supplied Reference: Cg0447601 Permit Version: 1 Effective Date: 1st December 2006 Issued Date: 1st September 2006 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Unnamed Watercourse **Status:** **New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A18NW (N)	956	2	337705 351260
25	**Discharge Consents** Operator: Pochins (Design And Build) Ltd Property Type: Undefined Or Other Location: Plot 6 Wrexham Ind Est, Clywedog Road Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0207401 Permit Version: 2 Effective Date: 29th January 1990 Issued Date: 29th January 1990 Revocation Date: 6th May 1993 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Stream Nr Redwither Brook **Status:** **Consent expired** Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	989	2	337520 349520

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	**Discharge Consents** Operator: Pochins (Design And Build) Ltd Property Type: Undefined Or Other Location: Plot 6 Wrexham Ind Est, Clywedog Road Authority: Natural Resources Wales Catchment Area: River Dee Reference: Cm0207401 Permit Version: 1 Effective Date: 1st January 1901 Issued Date: 1st January 1901 Revocation Date: 28th January 1990 Discharge Type: Unspecified Discharge Environment: Not Supplied Receiving Water: Stream Nr Redwither Brook **Status: Authorisation revoked** Positional Accuracy: Located by supplier to within 10m	A7SE (SW)	989	2	337520 349520
26	**Prosecutions Relating to Controlled Waters** Location: Unit 1, Unit 1, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UZ Prosecution Text: Ea Welsh Data 02/09/1999 (Legal Ref: R809), Polluting A Tributary Of Red Wither Brook. Offence Committed 05/08/1997. Given A Caution. Prosecution Act: Wra91 S85 Hearing Date: Not Supplied Verdict: Guilty Fine: Not Supplied Cost: Not Supplied Positional Accuracy: Manually positioned to the road within the address or location	A12NE (W)	547	3	337517 350535
27	**Prosecutions Relating to Controlled Waters** Location: Coed Aben Road, Coed Aben Road, WREXHAM, Clwyd, LL13 9UH Prosecution Text: Ea Welsh Data 02/09/1999, Polluting Red Wither Brook With Trade Effluent Pollutants. Offence Committed 06/11/1991. Given A Caution. Prosecution Act: Wra91 S85 Hearing Date: Not Supplied Verdict: Guilty Fine: Not Supplied Cost: Not Supplied Positional Accuracy: Manually positioned to the road within the address or location	A7SE (SW)	809	3	337665 349645
28	**Prosecutions Relating to Controlled Waters** Location: Red Wither Brook, Marlborough Road, Wrexham Industrial Estate, Wrexham, Clwyd, Ll13 9 Prosecution Text: Liquid Waste Collected And Flushed Into A Septic Tank Designed For Domestic Waste Prosecution Act: Wra91 S85(1) & S85(6) Hearing Date: 14th February 2003 Verdict: Guilty Fine: 100000 Cost: 114818 Positional Accuracy: Manually positioned within the geographical locality	A8SE (S)	905	3	338172 349469
29	**Enforcement and Prohibition Notices** Location: Bryn Lane, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9JU Permit Reference: Not Given Enforcement Date: 1st March 1994 Details: Press Release HM127, Failure to install monitoring equipment on time; under EPA90. Positional Accuracy: Unknown	A14NE (E)	798	3	338821 350498
30	**Enforcement and Prohibition Notices** Location: Clinical Waste incinerator, Marlborough Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Permit Reference: Sm43/01kc Enforcement Date: 18th February 2001 Details: Company Served Notice Following Disposal Of Liquid Waster By Methods Other Than Incineration. The Notice Requires The Company To Only Dispose Of Liquid Waste As Per Their Authorisation. Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	841	3	338529 349683
30	**Enforcement and Prohibition Notices** Location: Clinical Waste Incinerator, Malborough Road, WREXHAM, Clwyd, LL13 9RJ Permit Reference: Not Supplied Enforcement Date: 22nd September 2000 Details: Enforcement Notice Sreved Following The Identification Of Actual And Potential Contraventions Of The Authorisation With Regard To Monitoring Of Emissions. The Notice Requires A Programme Of Improvements To Ensure Compliance With Monitoring Requirements. Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	841	3	338535 349687

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	**Integrated Pollution Controls** Name: Activair Europe Location: 11 Ash Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UF Authority: Environment Agency, Welsh Region Permit Reference: AR3402 Dated: 28th April 1995 Process Type: IPC new application Description: 4.5 A (H) Inorganic Chemical processes within the Chemical Industry **Status:** **Application received by HMIP but is not yet authorised** Positional Accuracy: Manually positioned to the road within the address or location	A12SE (SW)	588	3	337497 350127
32	**Integrated Pollution Controls** Name: Owens Corning Fiberglas (gb) Ltd Location: Bryn Lane, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9JU Authority: Environment Agency, Welsh Region Permit Reference: BC5539 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 3.3 A Mineral Fibres (non-Asbestos) within the Mineral Industry **Status:** **Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A14NE (E)	797	3	338821 350493
32	**Integrated Pollution Controls** Name: Owens Corning Fiberglas (gb) Ltd Location: Bryn Lane, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9JU Authority: Environment Agency, Welsh Region Permit Reference: AG1425 Dated: 8th April 1993 Process Type: IPC application for process that was regulated by HMIP for air releases under previous legislation Description: 3.3 A Mineral Fibres (non-Asbestos) within the Mineral Industry **Status:** **Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A14NE (E)	797	3	338821 350493
32	**Integrated Pollution Controls** Name: Owens Corning Fiberglas (gb) Ltd Location: Bryn Lane, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9JU Authority: Environment Agency, Welsh Region Permit Reference: BC6713 Dated: 24th November 1998 Process Type: IPC minor (non-substantial) variation to previous variation Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status:** **Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A14NE (E)	798	3	338821 350498
32	**Integrated Pollution Controls** Name: Owens Corning Fiberglas (gb) Ltd Location: Bryn Lane, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9JU Authority: Environment Agency, Welsh Region Permit Reference: AK5407 Dated: 18th February 1994 Process Type: IPC new application Description: 4.2 A (D) Manufacture and use of Organic Chemicals within the Chemical Industry **Status:** **Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A14NE (E)	802	3	338826 350493
32	**Integrated Pollution Controls** Name: Owens Corning Fiberglas (gb) Ltd Location: Bryn Lane, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9JU Authority: Environment Agency, Welsh Region Permit Reference: BG0342 Dated: 21st September 2001 Process Type: IPC minor (non-substantial) variation to previous variation Description: 3.3 A Mineral Fibres (non-Asbestos) within the Mineral Industry **Status:** **Authorisation revoked** Positional Accuracy: Automatically positioned to the address	A14NE (E)	803	3	338826 350503
33	**Integrated Pollution Controls** Name: Stadex Industries Ltd Location: Coed Aben Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UH Authority: Environment Agency, Welsh Region Permit Reference: BF1220 Dated: 8th June 1999 Process Type: IPC new application Description: 6.2 A (D) Di-isocyanate processes within Miscellaneous Industries **Status:** **Authorisation revoked** Positional Accuracy: Manually positioned to the road within the address or location	A8SW (S)	876	3	337720 349546

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
34	**Integrated Pollution Prevention And Control** Name: Wrexham Convenience Foods Location: Rowan Foods Ea/Epr/Wp3534gx/A001, Rowan Foods Limited, Ash Road South,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UG Authority: Natural Resources Wales Permit Reference: WP3534GX Original Permit Ref: Not Supplied Effective Date: 9th February 2022 **Status:** **Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 6.8 A(1) d) (iii) Activity Description: Not Supplied Primary Activity: Y Activity Code: 5.4 PART A (1) A) (II) Activity Description: Not Supplied Primary Activity: N	A13SW (SW)	224	2	337838 350260
34	**Integrated Pollution Prevention And Control** Name: Oscar Mayer Limited Location: Rowan Foods, Rowan Foods Limited, Ash Road South,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UG Authority: Natural Resources Wales Permit Reference: PP3538VJ Original Permit Ref: Wp3534gx Effective Date: 25th June 2014 **Status:** **Effective** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 6.8 A(1) (D) (I) Activity Description: Animal Vegetable & Food; Treating Etc Animal Raw Materials (Not Milk) For Food >75T/D Primary Activity: Y Activity Code: 5.4 A(1) a) (ii) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: N	A13SW (SW)	224	2	337838 350260
34	**Integrated Pollution Prevention And Control** Name: Oscar Mayer Limited Location: Rowan Foods, Rowan Foods Limited, Ash Road South,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UG Authority: Natural Resources Wales Permit Reference: WP3131ZF Original Permit Ref: Wp3534gx Effective Date: 26th March 2013 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 5.4 A(1) a) (ii) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: N Activity Code: 6.8 A(1) (D) (I) Activity Description: Animal Vegetable & Food; Treating Etc Animal Raw Materials (Not Milk) For Food >75T/D Primary Activity: Y	A13SW (SW)	224	2	337838 350260
35	**Integrated Pollution Prevention And Control** Name: Gillette Uk Ltd Location: Wrexham Zinc Air Cell, Duracell Global Business Manag, 11 Ash Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UF Authority: Natural Resources Wales Permit Reference: UP3431UH Original Permit Ref: Bk3824ix Effective Date: 6th November 2007 **Status:** **Surrender Effective** Application Type: Surrender App. Sub Type: Whole Positional Accuracy: Manually positioned to the address or location Activity Code: 4.2 A(1) (F) Activity Description: Inorganic Chemicals; Using Mercury/Cadmium And Compounds If Release Into Air Primary Activity: Y Activity Code: 4.2 A(1) (A) (V) Activity Description: Inorganic Chemicals; Non Metals Etc Eg Calcium Carbide Primary Activity: N	A13NW (W)	338	2	337700 350399

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
35	**Integrated Pollution Prevention And Control** Name: Gillette Uk Ltd Location: Wrexham Zinc Air Cell, Duracell Global Business Manag, Wrexham, Clwyd, LL13 9UF Authority: Natural Resources Wales Permit Reference: AP3933LR Original Permit Ref: Bk3824ix Effective Date: 3rd March 2006 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Located by supplier to within 100m Activity Code: 4.2 A(1) (A) (V) Activity Description: Inorganic Chemicals; Non Metals Etc Eg Calcium Carbide Primary Activity: N Activity Code: 4.2 A(1) (F) Activity Description: Inorganic Chemicals; Using Mercury/Cadmium And Compounds If Release Into Air Primary Activity: Y	A13NW (W)	338	2	337700 350400
35	**Integrated Pollution Prevention And Control** Name: Gillette Uk Ltd Location: Wrexham Zinc Air Cell, Duracell Global Business Manag, 11 Ash Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UF Authority: Natural Resources Wales Permit Reference: Bk3824ix Original Permit Ref: Bk3824ix Effective Date: 9th October 2003 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Located by supplier to within 100m Activity Code: 4.2 A(1) (F) Activity Description: Inorganic Chemicals; Using Mercury/Cadmium And Compounds If Release Into Air Primary Activity: Y Activity Code: 4.2 A(1) (A) (V) Activity Description: Inorganic Chemicals; Non Metals Etc Eg Calcium Carbide Primary Activity: N	A13NW (W)	338	2	337700 350400
36	**Integrated Pollution Prevention And Control** Name: Wrexham Wire Limited Location: Ash Road North, Ash Road North, Wrexham Industrial Estate, Wrexham, Wrexham, LL13 9JT Authority: Natural Resources Wales Permit Reference: AB3190FW Original Permit Ref: Not Supplied Effective Date: 6th May 2016 **Status:** **Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 2.3 A(1) (A) Activity Description: Not Supplied Primary Activity: Y Activity Code: 5.4 PART A (1) A) (II) Activity Description: Not Supplied Primary Activity: N	A13NW (NW)	347	2	337742 350547
36	**Integrated Pollution Prevention And Control** Name: Caparo Steel Products Limited Location: Wrexham Wire, Po Box 87, Ash Road North,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9JT Authority: Natural Resources Wales Permit Reference: KP3231ZB Original Permit Ref: Bx6774in Effective Date: 28th March 2013 **Status:** **Effective** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 100m Activity Code: 5.4 A(1) a) (ii) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: N Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 2.3 A(1) (A) Activity Description: Surface Treating Metals And Plastics; Electrolytic/Chemical Greater Than 30 Cubic Metres Primary Activity: Y	A13NW (NW)	384	2	337700 350550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
37	**Integrated Pollution Prevention And Control** Name: Caparo Wire Ltd Location: Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Authority: Natural Resources Wales Permit Reference: ZP3336LN Original Permit Ref: Bx6774in Effective Date: 26th June 2006 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) (C) (II) Activity Description: Other Waste Disposal; Non-Hazardous Waste >50T/D By Physico-Chemical Treatment Primary Activity: N Activity Code: 2.3 A(1) (A) Activity Description: Surface Treating Metals And Plastics; Electrolytic/Chemical Greater Than 30 Cubic Metres Primary Activity: Y	A13NW (NW)	384	2	337733 350600
37	**Integrated Pollution Prevention And Control** Name: Caparo Wire Limited Location: Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Authority: Natural Resources Wales Permit Reference: Bx6774in Original Permit Ref: Bx6774in Effective Date: 26th November 2004 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 2.3 A(1) (A) Activity Description: Surface Treating Metals And Plastics; Electrolytic/Chemical Greater Than 30 Cubic Metres Primary Activity: Y Activity Code: 5.3 A(1) (C) (II) Activity Description: Other Waste Disposal; Non-Hazardous Waste >50T/D By Physico-Chemical Treatment Primary Activity: N	A13NW (NW)	385	2	337733 350600
38	**Integrated Pollution Prevention And Control** Name: Wrexham Pharmaceutical Works Location: Unit 9, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UF Authority: Natural Resources Wales Permit Reference: SP3030LZ Original Permit Ref: Not Supplied Effective Date: 13th February 2019 **Status:** **Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 4.5 PART A (1) A) Activity Description: Not Supplied Primary Activity: Y	A12SE (W)	593	2	337447 350289
38	**Integrated Pollution Prevention And Control** Name: Ipsen Biopharm Ltd Location: Wrexham Pharmaceutical Works, Unit 9, Ash Road North,Wrexham Industrial Estate,, WREXHAM, Clwyd, LL13 9UF Authority: Natural Resources Wales Permit Reference: JP3038HV Original Permit Ref: Sp3030lz Effective Date: 19th December 2012 **Status:** **Effective** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 4.4 A(1) (A) Activity Description: Plant Health & Biocides; Producing Plant Health Products/Biocides Primary Activity: Y	A12SE (W)	593	2	337447 350289

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	**Integrated Pollution Prevention And Control** Name: Wrexham Mill Location: Bridge Rd North, Wrexham Ind Est, Wrexham, Wrexham Cbc, LL13 3PS Authority: Natural Resources Wales Permit Reference: AB3492ZQ Original Permit Ref: Not Supplied Effective Date: 26th January 2022 **Status:** **Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Located by supplier to within 10m Activity Code: 6.8 PART A (1) D) (II) Activity Description: Not Supplied Primary Activity: Y	A8SE (SE)	759	2	338345 349671
40	**Integrated Pollution Prevention And Control** Name: Wrexham Metal Finishing Chemicals Location: Unit 24, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Authority: Natural Resources Wales Permit Reference: YP3736UX Original Permit Ref: Not Supplied Effective Date: 28th November 2007 **Status:** **Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 4.2 PART A (1) A) (IV) Activity Description: Not Supplied Primary Activity: N Activity Code: 4.1 PART A (1) A) (IV) Activity Description: Not Supplied Primary Activity: N Activity Code: 0.0 Associated Process Activity Description: Not Supplied Primary Activity: N	A12SW (W)	767	2	337269 350354
41	**Integrated Pollution Prevention And Control** Name: Kelloggs Epr/Bv8016id Location: Wrexham, Breakfast Cereals, Bryn Lane, Wrexham Industrial Estate,,, WREXHAM, Clwyd, LL13 9UT Authority: Natural Resources Wales Permit Reference: Bv8016id Original Permit Ref: Not Supplied Effective Date: 17th February 2022 **Status:** **Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 1.1 A(1) (A) Activity Description: Not Supplied Primary Activity: N Activity Code: 5.4 PART A (1) A) (I) Activity Description: Not Supplied Primary Activity: N Activity Code: 6.8 PART A (1) D) (II) Activity Description: Not Supplied Primary Activity: Y	A14NE (E)	798	2	338821 350498
41	**Integrated Pollution Prevention And Control** Name: Kellogg Company Of Great Britain Ltd Location: Wrexham, Breakfast Cereals, Kelloggs, Bryn Lane,Wrexham Industrial Estate,, Wrexham, Clwyd, LL13 9UT Authority: Natural Resources Wales Permit Reference: GP3031ZW Original Permit Ref: Bv8016id Effective Date: 21st March 2013 **Status:** **Effective** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 5.4 A(1) a) (i) Activity Description: DISPOSAL OF > 50 T/D NON-HAZARDOUS WASTE (> 100 T/D IF ONLY AD) INVOLVING BIOLOGICAL TREATMENT Primary Activity: N Activity Code: 6.8 A(1) (D) (II) Activity Description: Animal, Vegetable & Food; Treating Etc. Vegetable Raw Materials For Food Greater Than 300T/Day Primary Activity: Y Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: N	A14NE (E)	798	2	338821 350498

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	**Integrated Pollution Prevention And Control** Name: Kellogg Company Of Great Britain Ltd Location: Wrexham, Breakfast Cereals, Kelloggs, Bryn Lane,Wrexham Industrial Estate,, Wrexham, Clwyd, LL13 9UT Authority: Natural Resources Wales Permit Reference: VP3935CF Original Permit Ref: Bv8016id Effective Date: 19th April 2012 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 6.8 A(1) (D) (II) Activity Description: Animal, Vegetable & Food; Treating Etc. Vegetable Raw Materials For Food Greater Than 300T/Day Primary Activity: Y Activity Code: 5.3 A(1) (C) (I) Activity Description: Other Waste Disposal; Non-Hazardous Waste >50T/D By Biological Treatment Primary Activity: N Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: N	A14NE (E)	798	2	338821 350498
41	**Integrated Pollution Prevention And Control** Name: Kellogg Company Of Great Britain Ltd Location: Wrexham, Breakfast Cereals, Kelloggs, Bryn Lane,Wrexham Industrial Estate,, Wrexham, Clwyd, LL13 9UT Authority: Natural Resources Wales Permit Reference: VP3832KF Original Permit Ref: Bv8016id Effective Date: 23rd March 2010 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) (C) (I) Activity Description: Other Waste Disposal; Non-Hazardous Waste >50T/D By Biological Treatment Primary Activity: N Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: N Activity Code: 6.8 A(1) (D) (II) Activity Description: Animal, Vegetable & Food; Treating Etc. Vegetable Raw Materials For Food Greater Than 300T/Day Primary Activity: Y	A14NE (E)	798	2	338821 350498
41	**Integrated Pollution Prevention And Control** Name: Kellogg Company Of Great Britain Ltd Location: Bryn Lane, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UT Authority: Natural Resources Wales Permit Reference: KP3135LW Original Permit Ref: Bv8016id Effective Date: 5th May 2006 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 6.8 A(1) (D) (II) Activity Description: Animal, Vegetable & Food; Treating Etc. Vegetable Raw Materials For Food Greater Than 300T/Day Primary Activity: Y Activity Code: 1.1 A(1) (A) Activity Description: Combustion; Any Fuel Greater Or Equal To 50Mw Primary Activity: N Activity Code: 5.3 A(1) (C) (I) Activity Description: Other Waste Disposal; Non-Hazardous Waste >50T/D By Biological Treatment Primary Activity: N	A14NE (E)	798	2	338821 350498

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
41	**Integrated Pollution Prevention And Control** Name: Owens Corning Fiberglas (Gb) Ltd Location: Wrexham Plant, Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JU Authority: Environment Agency, Welsh Region Permit Reference: Bm7243 Original Permit Ref: Bm7243 Effective Date: Not Supplied **Status:** **Valid** Application Type: Not Supplied App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 3.3 A(1) (A) Activity Description: Glass And Glass Fibre; Glass Fibre Manufacture Primary Activity: Not Supplied	A14NE (E)	798	3	338821 350498
42	**Integrated Pollution Prevention And Control** Name: Wrexham Clinical Waste Treatment Facility (Incinerator) Location: Wrexham Clinical Waste Treatment Facility (Incinerator), Wrexham Clinical Waste Treatment Facility (Incinerator), Marlborough Road,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: WP3836ZF Original Permit Ref: Not Supplied Effective Date: 22nd December 2022 **Status:** **Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 5.1 PART A (1) A) Activity Description: Not Supplied Primary Activity: Y	A9NW (SE)	837	2	338605 349750
42	**Integrated Pollution Prevention And Control** Name: Wrexham Clinical Waste Treatment Facility (Hdu & Ts) Location: Wrexham Clinical Waste Treatment Facility (Hdu & Ts), Wrexham Clinical Waste Treatment Facility (Hdu & Ts), Marlborough Road,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: WP3636ZG Original Permit Ref: Not Supplied Effective Date: 28th June 2021 **Status:** **Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) a) (ii) Activity Description: Not Supplied Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Not Supplied Primary Activity: N	A9NW (SE)	837	2	338605 349750
42	**Integrated Pollution Prevention And Control** Name: Polkacrest Wales Limited Location: Wrexham Clinical Waste Treatment Plant And Transfer Station, Wrexham Clinical Waste Treatment Plant And Transfer Station, Marlborough Road,Wrexham Industrial Estate,, Wrexham, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: RP3035FV Original Permit Ref: Rp3237sz Effective Date: 27th October 2011 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y	A9NW (SE)	837	2	338605 349750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	**Integrated Pollution Prevention And Control** Name: Attero Services Ltd Location: Marlborough Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: GP3335MA Original Permit Ref: Ap3538sm Effective Date: 15th December 2006 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 5.1 A(1) (A) Activity Description: Incineration Of Hazardous Waste Primary Activity: Y	A9NW (SE)	837	2	338605 349750
42	**Integrated Pollution Prevention And Control** Name: Polkacrest Wales Limited Location: Wrexham Clinical Waste Treatment Plant And Transfer Station, Wrexham Clinical Waste Treatment Plant And Transfer Station, Marlborough Road,Wrexham Industrial Estate,, Wrexham, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: Rp3237sz Original Permit Ref: Rp3237sz Effective Date: 23rd June 2006 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A9NW (SE)	837	2	338605 349750
42	**Integrated Pollution Prevention And Control** Name: Polkacrest Wales Limited Location: Wrexham Clinical Waste Incinerator, Sterile Technologies (Newcaste) Ltd, Marlborough Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: Ap3538sm Original Permit Ref: Ap3538sm Effective Date: 14th December 2005 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 5.1 A(1) (A) Activity Description: Incineration Of Hazardous Waste Primary Activity: Y	A9NW (SE)	837	2	338605 349750
42	**Integrated Pollution Prevention And Control** Name: Sita Healthcare Limited Location: Wrexham Clinical Waste Treatment Facility (Hdu & Ts), Wrexham Clinical Waste Treatment Facility (Hdu & Ts), Marlborough Road,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: UP3133AC Original Permit Ref: Wp3636zg Effective Date: 14th January 2015 **Status:** **Effective** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.3 A(1) a) (ii) Activity Description: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: Y	A9NW (SE)	841	2	338620 349760

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
42	**Integrated Pollution Prevention And Control** Name: Sita Healthcare Limited Location: Wrexham Clinical Waste Treatment Facility (Hdu & Ts), Wrexham Clinical Waste Treatment Facility (Hdu & Ts), Marlborough Road,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: PP3230NV Original Permit Ref: Wp3636zg Effective Date: 25th March 2013 **Status: Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.3 A(1) a) (ii) Activity Description: DISPOSAL OR RECOVERY OF HAZARDOUS WASTE WITH A CAPACITY EXCEEDING 10 TONNES PER DAY INVOLVING PHYSICO-CHEMICAL TREATMENT Primary Activity: Y	A9NW (SE)	841	2	338620 349760
42	**Integrated Pollution Prevention And Control** Name: Sita Uk Limited Location: Wrexham Clinical Waste Treatment Plant And Transfer Station, Wrexham Clinical Waste Treatment Plant And Transfer Station, Marlborough Road,Wrexham Industrial Estate,, Wrexham, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: UP3137FB Original Permit Ref: Up3137fb Effective Date: 4th November 2011 **Status: Superseded By Variation** Application Type: Transfer App. Sub Type: Whole limited change in management Positional Accuracy: Located by supplier to within 10m Activity Code: 5.3 A(1) (A) Activity Description: Other Waste Disposal; Hazardous Waste Greater Than 10T/D Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A9NW (SE)	841	2	338620 349760
43	**Integrated Pollution Prevention And Control** Name: Polkacrest Limited Location: Wrexham Clinical Waste Incinerator, Sterile Technologies (Newcaste) Ltd, Marlborough Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: VP3739XC Original Permit Ref: Ap3538sm Effective Date: 21st January 2008 **Status: Superseded By Variation** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Manually positioned to the road within the address or location Activity Code: 5.1 A(1) (A) Activity Description: Incineration Of Hazardous Waste Primary Activity: Y	A9NW (SE)	842	2	338544 349693
44	**Integrated Pollution Prevention And Control** Name: Phase 2 Wrexham Recycling Park Location: Wrexham Recycling Park, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Authority: Natural Resources Wales Permit Reference: BB3436RA Original Permit Ref: Not Supplied Effective Date: 16th March 2023 **Status: Effective** Application Type: Bespoke App. Sub Type: Not Supplied Positional Accuracy: Located by supplier to within 10m Activity Code: 5.4 A(1) b) (i) Activity Description: Not Supplied Primary Activity: Y	A9NE (SE)	864	2	338758 349891

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
45	**Integrated Pollution Prevention And Control** Name: Sita Healthcare Limited Location: Wrexham Clinical Waste Treatment Facility (Incinerator), Wrexham Clinical Waste Treatment Facility (Incinerator), Marlborough Road,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: QP3933NZ Original Permit Ref: Wp3836zf Effective Date: 22nd April 2013 **Status:** **Effective** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 100m Activity Code: 5.1 A(1) (A) Activity Description: Incineration Of Hazardous Waste Primary Activity: Y	A9NW (SE)	872	2	338600 349700
45	**Integrated Pollution Prevention And Control** Name: Sita Uk Limited Location: Wrexham Clinical Waste Incinerator, Sterile Technologies (Newcaste) Ltd, Marlborough Road,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: MP3635FQ Original Permit Ref: Mp3239fq Effective Date: 20th October 2011 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Located by supplier to within 100m Activity Code: 5.1 A(1) (A) Activity Description: Incineration Of Hazardous Waste Primary Activity: Y	A9NW (SE)	872	2	338600 349700
45	**Integrated Pollution Prevention And Control** Name: Sita Uk Limited Location: Wrexham Clinical Waste Incinerator, Sterile Technologies (Newcaste) Ltd, Marlborough Road,,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: MP3239FQ Original Permit Ref: Mp3239fq Effective Date: 12th May 2011 **Status:** **Superseded By Variation** Application Type: Transfer App. Sub Type: Whole limited change in management Positional Accuracy: Located by supplier to within 100m Activity Code: 5.1 A(1) (A) Activity Description: Incineration Of Hazardous Waste Primary Activity: Y	A9NW (SE)	872	2	338600 349700
46	**Local Authority Integrated Pollution Prevention And Control** Name: Intelicoat Technologies Location: Wrexham Industrial Estate, Wrexham, LL13 9UF Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/04/14 Dated: Not Supplied Process Type: Other Activities Description: Coating manufacturing process **Status:** **Permit Issued** Positional Accuracy: Manually positioned to the address or location	A13NW (N)	274	4	338032 350637
46	**Local Authority Integrated Pollution Prevention And Control** Name: Exopack Advanced Coatings Location: Wrexham Industrial Estate, Wrexham, Ll13 9uf Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/04/IT(V1) Dated: 30th May 2002 Process Type: Other Activities Description: Coating Process **Status:** **Permit Issued** Positional Accuracy: Manually positioned to the address or location	A13NW (N)	285	4	338023 350647
47	**Local Authority Integrated Pollution Prevention And Control** Name: Cytec Engineered Materials Ltd Location: Abenbury Way, Wrexham Industrial Estate, Wrexham, Ll13 9uz Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/02/CEM Dated: 6th April 2004 Process Type: Other Activities Description: SG6 **Status:** **Permit Issued** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	505	4	337550 350500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
47	**Local Authority Integrated Pollution Prevention And Control** Name: Cytec Engineered Materials Ltd Location: Abenbury Way, Wrexham Industrial Estate, Wrexham, LL13 9UZ Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/02/CEM Dated: Not Supplied Process Type: Other Activities Description: Coating manufacturing process **Status:** **Permit Issued** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	505	4	337550 350500
48	**Local Authority Integrated Pollution Prevention And Control** Name: Ball Packaging Europe Ltd Location: Bridge Road, Wrexham Industrial Estate, Wrexham Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/01/BP Dated: 6th January 2004 Process Type: Other Activities Description: Coating of Metal Packaging **Status:** **Permit Issued** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	690	4	337901 349687
49	**Local Authority Pollution Prevention and Controls** Name: Hoya Lens Uk Ltd Location: Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UA Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: Not Given Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/29 Di-isocyanate processes **Status:** **Authorised** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	215	4	338170 350530
49	**Local Authority Pollution Prevention and Controls** Name: Hoya Lens Uk Ltd Location: Fourth Road, Wrexham Industrial Estate, Wrexham, Ll13 9ua Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG6/45/HL1 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/45 Surface cleaning **Status:** **Permitted** Positional Accuracy: Manually positioned to the address or location	A13NE (NE)	215	4	338170 350530
50	**Local Authority Pollution Prevention and Controls** Name: Rexham UK Ltd Location: Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WMBC/HJB/03/041 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/32 Adhesive coating **Status:** **Authorisation revoked** Positional Accuracy: Manually positioned within the geographical locality	A13NE (N)	272	4	338105 350626
51	**Local Authority Pollution Prevention and Controls** Name: Exopack Advanced Coatings Location: Ash Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UF Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/04/IT(V1) Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/14 Film coating processes **Status:** **Transferred to LAIPPC** Positional Accuracy: Located by supplier to within 10m	A13NW (N)	274	4	338031 350637
51	**Local Authority Pollution Prevention and Controls** Name: Exopack Advanced Coatings Location: Ash Road North, Wrexham Industrial Estate, Wrexham, Ll13 9uf Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/04/IT(V1) Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/10 Coating manufacturing **Status:** **Transferred to LAIPPC** Positional Accuracy: Located by supplier to within 10m	A13NW (N)	274	4	338031 350637

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
52	**Local Authority Pollution Prevention and Controls** Name: Jcb Transmissions Location: Unit 4 Abenbury Way, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UF Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG6/23/JCB/V1 Dated: 6th August 1999 Process Type: Local Authority Air Pollution Control Description: PG6/23 Coating of metal and plastic **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A13NW (NW)	369	4	337844 350678
53	**Local Authority Pollution Prevention and Controls** Name: Rexham Uk Ltd Location: Ash Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UF Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: Wmbc/Hjb/03/027 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/14 Film coating processes **Status: Authorised** Positional Accuracy: Manually positioned to the road within the address or location	A18SE (N)	388	4	338050 350750
54	**Local Authority Pollution Prevention and Controls** Name: Orchid Dry Cleaners Ltd Location: Unit A4 Abbey Close, Redwither Business Park, Wrexham, LL19 9XG Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG6/46/ODC Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/46 Dry cleaning **Status: Permitted** Positional Accuracy: Manually positioned to the address or location	A14NW (NE)	424	4	338407 350567
55	**Local Authority Pollution Prevention and Controls** Name: K D Products Ltd Location: Redwither Tower, Redwither Industrial Complex, WREXHAM, Clwyd, LL13 9UE Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG6/2(1) Dated: 14th April 2000 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products **Status: Authorised** Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	468	4	338448 350144
56	**Local Authority Pollution Prevention and Controls** Name: Westminster Bedsteads Location: Unit 3 Abenbury Way, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UZ Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: Wcbc/Njm/03/026 Dated: 7th April 1992 Process Type: Local Authority Air Pollution Control Description: PG6/33 Wood coating **Status: Authorised** Positional Accuracy: Manually positioned to the road within the address or location	A12NE (NW)	495	4	337644 350666
56	**Local Authority Pollution Prevention and Controls** Name: Westminster Bedsteads Location: Unit 3 Abenbury Way, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UZ Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: Wmbc/Hjb/01/003 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products **Status: Not Supplied** Positional Accuracy: Manually positioned to the road within the address or location	A12NE (NW)	495	4	337644 350666
57	**Local Authority Pollution Prevention and Controls** Name: Cytec Engineered Materials Ltd Location: Abenbury Way, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UZ Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/02/CEM Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/32 Adhesive coating **Status: Transferred to LAIPPC** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	505	4	337550 350500

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	**Local Authority Pollution Prevention and Controls** Name: Cytec Engineered Materials Ltd Location: Abenbury Way, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UZ Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/02/CEM Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/10 Coating manufacturing **Status: Transferred to LAIPPC** Positional Accuracy: Manually positioned to the address or location	A12NE (W)	505	4	337550 350500
58	**Local Authority Pollution Prevention and Controls** Name: Isringhausan Location: Redwither Industrial Complex, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9XR Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: Wmbc/Hjb/03/040 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/34 Respraying of road vehicles **Status: Authorisation revoked** Positional Accuracy: Manually positioned within the geographical locality	A14SW (SE)	546	4	338524 350120
59	**Local Authority Pollution Prevention and Controls** Name: Tritech Precision Products Limited Location: Bridge Road North, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9PS Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC-PG2-4-TP(V2) Dated: 10th November 1993 Process Type: Local Authority Air Pollution Control Description: PG2/3 Electrical and rotary furnaces **Status: Authorised** Positional Accuracy: Automatically positioned to the address	A8SW (S)	689	4	337901 349688
59	**Local Authority Pollution Prevention and Controls** Name: Lloyds Animal Feeds (Western) Ltd Location: Bridge Road North, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9PS Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG6/26(1)V2 Dated: 21st October 1993 Process Type: Local Authority Air Pollution Control Description: PG6/26 Animal feed compounding **Status: Transferred to LAIPPC** Positional Accuracy: Automatically positioned to the address	A8SW (S)	689	4	337901 349688
59	**Local Authority Pollution Prevention and Controls** Name: Ball Packaging Europe Ltd Location: Bridge Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9PS Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/IPPC/01/BP(v2) Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/7 Printing and coating of metal packaging **Status: Transferred to LAIPPC** Positional Accuracy: Automatically positioned to the address	A8SW (S)	689	4	337901 349688
60	**Local Authority Pollution Prevention and Controls** Name: Westminster Pine Location: Unit 22, Site 5 Abenbury Way, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: NOT GIVEN Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG6/33 Wood coating **Status: Not Supplied** Positional Accuracy: Manually positioned within the geographical locality	A12SE (SW)	719	4	337383 350063
61	**Local Authority Pollution Prevention and Controls** Name: Lloyds Animal Feeds (Western) Ltd Location: Bridge Road North, Wrexham Industrial Estate, Wrexham, Ll13 9ps Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG6/26(1)V2 Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG6/28 Rubber processes **Status: Permitted** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	768	4	338320 349650

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
62	**Local Authority Pollution Prevention and Controls** Name: Onyx Clinical Limited Location: Marlborough Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WMBC/HJB/02/019 Dated: Not Supplied Process Type: Local Authority Air Pollution Control Description: PG5/1Clinical waste incineration processes under 1 tonne an hour **Status:** **Not Supplied** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	816	4	338584 349760
63	**Local Authority Pollution Prevention and Controls** Name: R C Motors Wrexham Ltd Location: Redwither Road Garage, Wrexham Industrial Estate, LI13 9rd Authority: Wrexham County Borough Council, Environmental Health Department Permit Reference: WCBC/PG1/1RCM Dated: Not Supplied Process Type: Local Authority Pollution Prevention and Control Description: PG1/1Waste oil burners, less than 0.4MW net rated thermal input **Status:** **Permitted** Positional Accuracy: Manually positioned to the address or location	A9SW (SE)	946	4	338512 349547
64	**Local Authority Pollution Prevention and Control Enforcements** Location: Redwither Tower, Redwither Industrial Estate, Wrexham Type: Air Pollution Control Enforcement Notice Reference: WCBC/PG6/2(1) Date Issued: Not Supplied Enforcement Date: 18th June 2007 Details: Not Supplied Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	468	4	338448 350144
65	**Local Authority Pollution Prevention and Control Enforcements** Location: Bridge North Road, Wrexham Industrial Estate, Wrexham Type: Air Pollution Control Enforcement Notice Reference: WCBC-PG2-4-TP Date Issued: 1st March 2007 Enforcement Date: Not Supplied Details: Not Supplied Positional Accuracy: Manually positioned to the address or location	A8SW (S)	690	4	337901 349687
	Nearest Surface Water Feature	A13NW (W)	87	-	337950 350379
66	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Ash Road Behind, Nantyffyllon Right Hand Bank Authority: Environment Agency, Welsh Region Pollutant: Sewage - Septic Tank Effluent Note: Weather Incident Date: 20th May 1996 Incident Reference: 28406 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leachate Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (N)	234	3	338005 350595
66	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Sewage Treatment Works Location: Ash Road Authority: Environment Agency, Welsh Region Pollutant: Sewage - Septic Tank Effluent Note: Weather Incident Date: 20th May 1996 Incident Reference: 28406 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leachate Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (N)	235	3	338000 350595

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Wrexham Industrial Estate Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Weather Incident Date: 20th May 1996 Incident Reference: 28406 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leachate Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (N)	239	3	338005 350600
66	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Sewage Treatment Works Location: Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Weather Incident Date: 20th May 1996 Incident Reference: 28406 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leachate Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (N)	240	3	338000 350600
67	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 21st August 1991 Incident Reference: 3160 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	317	3	337750 350500
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Units 412 And 414, Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Blockage Incident Date: 9th June 1997 Incident Reference: 32646 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (W)	342	3	337700 350300
68	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Units 412 & 414, Wrexham Industrial Estate Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Redwither Brook; Overflow Incident Date: 9th June 1997 Incident Reference: 32646 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Blocked Sewer Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13SW (W)	343	3	337700 350295
69	**Pollution Incidents to Controlled Waters** Property Type: Process Location: Drain From, Redwither Industrial Estate Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Blocked Sewer Incident Date: 10th October 1995 Incident Reference: 26343 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (SE)	400	3	338400 350200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
70	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Small Spillage, Of Acetone And, Chlorinated Authority: Environment Agency, Welsh Region Pollutant: Heavy Fuel Oil Note: Not Supplied Incident Date: 23rd September 1994 Incident Reference: 21091 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	429	3	337650 350550
71	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Adjacent To Coachman Foods Authority: Environment Agency, Welsh Region Pollutant: Oils - Fats And Grease Note: Not Supplied Incident Date: 10th April 1997 Incident Reference: 31820 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	453	3	337800 350750
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Foam/Soap Suds Note: Not Supplied Incident Date: 10th October 1995 Incident Reference: 26344 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	457	3	337600 350500
72	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Factory Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 16th December 1991 Incident Reference: 3381 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	505	3	337550 350500
73	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Oils - Other Oil Note: Redwither Brook; Direct Introduction Incident Date: 9th February 1998 Incident Reference: 35173 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Deliberate Act Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	468	3	338100 349900
74	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Grounds Of, Westfield Pill Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Poor Management Control Incident Date: 12th March 1996 Incident Reference: 27779 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	472	3	337700 350695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
74	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Surface Water Outfall Location: Grounds Of, Westminster, Pine Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Poor Operational Practise Incident Date: 12th March 1996 Incident Reference: 27779 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	476	3	337700 350700
75	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: At Jcb, Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Redwither Brook; Run-Off Incident Date: 22nd September 1997 Incident Reference: 33758 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Poor Management Control Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	475	3	337850 350800
76	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Rear Railway Crossing, Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Neglect Incident Date: 12th January 1996 Incident Reference: 27252 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	493	3	338500 350200
77	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Not Supplied Incident Date: 14th January 1997 Incident Reference: 31050 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	624	3	338150 349750
78	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Not Supplied Incident Date: 14th January 1997 Incident Reference: 31050 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	629	3	338150 349745
78	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Light Oil Note: Redwither Brook Incident Date: 17th September 1997 Incident Reference: 33591 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	652	3	338140 349720

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Wrexham Industrial Estate, Dolphin Cottage Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Not Supplied Incident Date: 24th January 1996 Incident Reference: 27506 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	678	3	338150 349695
79	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Stadex, Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Poor Management Incident Date: 23rd April 1997 Incident Reference: 31952 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	632	3	337750 349800
80	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Grounds Of Speywood, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Light Oil Note: Deliberate; Afon Clywedog Incident Date: 30th June 1998 Incident Reference: 36161 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A12NE (W)	650	3	337400 350500
81	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Wxm Industrial Estate Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Not Supplied Incident Date: 24th January 1996 Incident Reference: 27506 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	674	3	338150 349700
81	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Surface Water Outfall Location: Redwither Brook Authority: Environment Agency, Welsh Region Pollutant: Sewage - Treated Effluent Note: Not Supplied Incident Date: 15th December 1995 Incident Reference: 26909 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	684	3	338200 349700
82	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Continental Can, Wrexham Industrial Estate, MARCHWIEL Authority: Environment Agency, Welsh Region Pollutant: Miscellaneous - Fire water / Foam Note: Afon Clywedog; Run-Off Incident Date: 6th December 1997 Incident Reference: 34279 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (S)	689	3	337850 349700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
82	**Pollution Incidents to Controlled Waters** Property Type: Council Premises Location: Blocked Manhole, At Con Can On, Wrexham Estate Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Blocked Sewer Incident Date: 7th December 1994 Incident Reference: 21916 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Overflow Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (S)	704	3	337800 349700
82	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Continental Can, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Sewage - Septic Tank Effluent Note: Not Supplied Incident Date: 28th November 1995 Incident Reference: 26963 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (S)	709	3	337800 349695
82	**Pollution Incidents to Controlled Waters** Property Type: Waste Handling Facilities Location: Down Stream Of Stadex, Industries Authority: Environment Agency, Welsh Region Pollutant: Farm Land Run-Off Note: Inadequate Design/Capacity Incident Date: 6th November 1991 Incident Reference: 3274 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	752	3	337800 349650
83	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Continental Can, Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Chemicals - Acid Note: Afon Clywedog; Spillage Incident Date: 14th July 1997 Incident Reference: 33038 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Accidental Spillage/Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (S)	694	3	337850 349695
84	**Pollution Incidents to Controlled Waters** Property Type: Miscellaneous Premises: Surface Runoff Location: Trib From N E Authority: Environment Agency, Welsh Region Pollutant: Chlorinated Water Note: Not Supplied Incident Date: 15th December 1995 Incident Reference: 26908 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (S)	715	3	338300 349700
84	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Oldacres Wrexham, Industrial Estate, Marchwie Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Accidental Spillage/Leakage Incident Date: 28th July 1995 Incident Reference: 25692 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NE (SE)	735	3	338350 349700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Surface Water Outfall Location: Gkk Plastics, Clywed Authority: Environment Agency, Welsh Region Pollutant: Agricultural: Carcasses Note: Vandalism Incident Date: 24th October 1994 Incident Reference: 21477 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	744	3	337700 349700
85	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Stadex Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Poor Operational Practise Incident Date: 26th November 1991 Incident Reference: 1142 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	746	3	337705 349695
85	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Stadex Authority: Environment Agency, Welsh Region Pollutant: Sewage - Septic Tank Effluent Note: Poor Operational Practise Incident Date: 5th October 1994 Incident Reference: 21316 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8NW (SW)	748	3	337700 349695
86	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Continental Can, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Accidental Spillage/Leakage Incident Date: 6th December 1991 Incident Reference: 1790 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	765	3	338000 349600
87	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Opposite Cafe, On Industrial Est Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Not Supplied Incident Date: 3rd December 1995 Incident Reference: 26923 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	794	3	337600 349700
87	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Natural Foam Note: Not Supplied Incident Date: 30th July 1995 Incident Reference: 25248 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	798	3	337600 349695

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Surface Water Outfall Location: Down Stream Of Stadex Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Poor Operational Practise Incident Date: 15th March 1995 Incident Reference: 23047 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	799	3	337800 349600
88	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Surface Water Outfall Location: Engineering Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Poor Operational Practise Incident Date: 22nd February 1995 Incident Reference: 22665 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	804	3	337800 349595
89	**Pollution Incidents to Controlled Waters** Property Type: Waste Handling Facilities Location: Stadex Authority: Environment Agency, Welsh Region Pollutant: Farm Effluent/Slurry Note: Poor Operational Practise Incident Date: 10th June 1991 Incident Reference: 2808 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (SW)	832	3	337705 349600
89	**Pollution Incidents to Controlled Waters** Property Type: Process Location: Continental Can, Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 2nd March 1992 Incident Reference: 3052 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SW (SW)	834	3	337700 349600
89	**Pollution Incidents to Controlled Waters** Property Type: Waste Handling Facilities Location: Stadex Authority: Environment Agency, Welsh Region Pollutant: Chemicals - Other Organic Note: Poor Operational Practise Incident Date: 3rd December 1991 Incident Reference: 1791 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SW (SW)	837	3	337705 349595
89	**Pollution Incidents to Controlled Waters** Property Type: Waste Handling Facilities Location: Stadex Authority: Environment Agency, Welsh Region Pollutant: Chemicals - Acid Note: Poor Operational Practise Incident Date: 3rd December 1991 Incident Reference: 1791 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SW (SW)	839	3	337700 349595

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
90	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: By Redwither Inn, Wrexham Industrial Estate Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Redwither Brook Incident Date: 11th September 1997 Incident Reference: 33595 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	864	3	338050 349500
91	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Treated Water Distribution System Location: 50 Metres Down Stream Of, Redwither Pub Bridge Authority: Environment Agency, Welsh Region Pollutant: Mud/Clay/Soil Note: Accidental Spillage/Leakage Incident Date: 13th December 1995 Incident Reference: 26907 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	879	3	338200 349500
91	**Pollution Incidents to Controlled Waters** Property Type: Process Location: Bestoy Unit, Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Not Supplied Incident Date: 15th March 1995 Incident Reference: 22827 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	928	3	338200 349450
92	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Surface Water Outfall Location: Deepak, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Accidental Spillage/Leakage Incident Date: 25th September 1994 Incident Reference: 21118 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Runoff Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	883	3	337400 349750
93	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Poor Operational Practise Incident Date: 29th August 1991 Incident Reference: 3198 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A8SW (S)	895	3	337800 349500
94	**Pollution Incidents to Controlled Waters** Property Type: Waste Handling Facilities Location: Wjc Construction Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Poor Operational Practise Incident Date: 16th April 1991 Incident Reference: 2612 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	933	3	337500 349600

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
94	**Pollution Incidents to Controlled Waters** Property Type: Waste Handling Facilities Location: Wjc Construction Authority: Environment Agency, Welsh Region Pollutant: Oils - Petrol Note: Poor Operational Practise Incident Date: 16th April 1991 Incident Reference: 2612 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Spillage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	937	3	337500 349595
95	**Pollution Incidents to Controlled Waters** Property Type: Warehouses Location: Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Heavy Fuel Oil Note: Poor Operational Practise Incident Date: 10th September 1991 Incident Reference: 3221 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Leakage Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	967	3	337600 349500
95	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Clywedog Road North, Wrexham Road Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Not Supplied Incident Date: 22nd August 1996 Incident Reference: 29674 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	972	3	337600 349495
96	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Crude Sewage Note: Poor Management Control Incident Date: 7th June 1996 Incident Reference: 28624 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A8SE (S)	978	3	338200 349400
97	**Pollution Incidents to Controlled Waters** Property Type: Process Location: Down Stream Of Richardsons, Fine Food Authority: Environment Agency, Welsh Region Pollutant: Oils - Diesel (Including Agricultural) Note: Deliberate Act Incident Date: 3rd December 1991 Incident Reference: 3294 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Direct Discharge Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	987	3	337540 349510
98	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Wrexham Industrial Estate, WREXHAM Authority: Environment Agency, Welsh Region Pollutant: Milk/Creamery Wastes Note: Redwither Brook; Spillage Incident Date: 11th August 1997 Incident Reference: 33200 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Poor Management Control Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	991	3	337300 349700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
99	**Pollution Incidents to Controlled Waters** Property Type: Not Given Location: Location Description Not Available Authority: Environment Agency, Welsh Region Pollutant: Unknown Note: Not Supplied Incident Date: 16th September 1994 Incident Reference: 21092 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Unknown Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A7SE (SW)	992	3	337650 349450
100	**Registered Radioactive Substances** Name: Specwood Ltd Location: Unit 11, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Authority: Natural Resources Wales Permit Reference: AG0500 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Automatically positioned to the address	A12SE (W)	658	2	337425 350118
100	**Registered Radioactive Substances** Name: Specwood Ltd Location: Unit 9, Ash Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UF Authority: Natural Resources Wales Permit Reference: AQ7135 Dated: 4th April 1995 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	659	2	337417 350138
100	**Registered Radioactive Substances** Name: Specwood Ltd Location: Duracell Global Business Management Group,11 Ash Road,Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UF Authority: Natural Resources Wales Permit Reference: AK1576 Dated: 22nd October 1993 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Manually positioned to the address or location	A12SE (W)	659	2	337418 350134
101	**Registered Radioactive Substances** Name: Trinco Ltd Location: Wrexham Plant, Harlborough Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: AW7886 Dated: 24th June 1997 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	813	2	338579 349760
101	**Registered Radioactive Substances** Name: Onyx Clinical Ltd Location: Wrexham Plant, Marlborough Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: BG6251 Dated: 15th December 1999 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	818	2	338588 349761

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
101	**Registered Radioactive Substances** Name: Eurocare Environmental Services Ltd (Dissolved) Location: Marlborough Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: Bw8615 Dated: 25th November 2003 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Minor variation to authorisation under RSA **Status: Authorisation either revoked or cancelled** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	837	2	338605 349750
101	**Registered Radioactive Substances** Name: Eurocare Environmental Services Ltd Location: Marlborough Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Environment Agency, Welsh Region Permit Reference: Bx1829 Dated: Not Supplied Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Substantial variation to authorisation under RSA **Status: Application has met the requirements for authorisation (but not yet authorised)** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	837	3	338605 349750
102	**Registered Radioactive Substances** Name: Eurocare Environmental Services Ltd (Dissolved) Location: Wrexham Plant, Marlborough Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RJ Authority: Natural Resources Wales Permit Reference: Bi3024 Dated: 21st June 2000 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	841	2	338531 349684
103	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 15th July 2001 Incident Reference: 16543 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Inorganic Chemicals : Acids	A8SW (S)	690	2	337901 349687
104	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 19th August 2019 Incident Reference: 1905523 Water Impact: Category 3 - Minor Incident Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Atmospheric Pollutants and Effects: Smoke	A7NE (SW)	709	2	337594 349809
105	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 19th January 2006 Incident Reference: 371865 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Organic Chemicals/Products: Other Organic Chemical Or Product Pollutant: Organic Chemicals/Products: Pesticides And Biocides	A8SW (SW)	738	2	337752 349682
106	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 13th July 2004 Incident Reference: 250782 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: General Biodegradable Materials And Wastes: Food And Drink	A7SE (SW)	794	2	337678 349655

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
107	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 26th June 2009 Incident Reference: 691429 Water Impact: Category 2 - Significant Incident Air Impact: Category 3 - Minor Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 10m Pollutant: Contaminated Water: Vegetable Washings	A8SE (S)	862	2	338152 349510
108	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 8th August 2002 Incident Reference: 98530 Water Impact: Category 2 - Significant Incident Air Impact: Category 4 - No Impact Land Impact: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 10m Pollutant: Crude Sewage	A8SW (S)	873	2	337715 349552
109	**Substantiated Pollution Incident Register** Authority: Natural Resources Wales Incident Date: 14th July 2002 Incident Reference: 91450 Water Impact: Category 3 - Minor Incident Air Impact: Category 2 - Significant Incident Land Impact: Category 4 - No Impact Positional Accuracy: Located by supplier to within 100m Pollutant: Atmospheric Pollutants and Effects: Smoke	A9SW (SE)	981	2	338500 349500
110	**Water Abstractions** Operator: Caparo Wire Ltd Licence Number: 24/67/7/0178 Permit Version: 100 Location: Tributary Of Redwither Brook Authority: Natural Resources Wales Abstraction: Metal: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Tributary Of Redwither Brook Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2007 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A13NW (NW)	264	2	337810 350500
110	**Water Abstractions** Operator: Caparo Wire Ltd Licence Number: 24/67/7/0178 Permit Version: Not Supplied Location: Abstraction From A Tributary Of The Redwither Brook, Wrexham Ind. Est. Authority: Natural Resources Wales Abstraction: Metal: Non-Evaporative Cooling Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13NW (NW)	264	2	337810 350500
111	**Water Abstractions** Operator: Mr G Taylor Licence Number: 24/67/9/0130 Permit Version: 100 Location: Well Authority: Environment Agency, Welsh Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 14th June 1968 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18NW (N)	869	3	337980 351230

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: 24/67/7/0222 Permit Version: 1 Location: 144 M Deep, 200mm Dia Bh Aw2 Authority: Environment Agency, Welsh Region Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Spectrum Business Park Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1218	3	338360 349190
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: 24/67/7/0213 Permit Version: 100 Location: 144 M Deep, 200mm Dia Bh Aw2 Authority: Environment Agency, Welsh Region Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 144M Deep 200mm Diameter Borehole Aw2 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3NE (S)	1218	3	338360 349190
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: Wa/067/0007/006 Permit Version: 1 Location: Spectrum Business Park Borehole Aw2 Authority: Natural Resources Wales Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Spectrum Business Park, Wrexham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1225	2	338350 349180
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: Wa/067/0007/006 Permit Version: 1 Location: 144m Deep, 150mm Dia., Ob1 Authority: Natural Resources Wales Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Spectrum Business Park, Wrexham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1290	2	338240 349090

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: 24/67/7/0222 Permit Version: 1 Location: 144m Deep, 150mm Dia., Ob1 Authority: Environment Agency, Welsh Region Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Spectrum Business Park Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3NE (S)	1290	3	338240 349090
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: 24/67/7/0213 Permit Version: 100 Location: 144m Deep, 150mm Dia., Ob1 Authority: Environment Agency, Welsh Region Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 144M Deep 150mm Diameter Ob1 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3NE (S)	1290	3	338240 349090
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: Wa/067/0007/006 Permit Version: 1 Location: 144m Deep, 150mm Dia. Borehole Aw1 Authority: Natural Resources Wales Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Spectrum Business Park, Wrexham Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2012 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3SE (S)	1432	2	338190 348940
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: 24/67/7/0222 Permit Version: 1 Location: 144m Deep, 150mm Dia. Borehole Aw1 Authority: Environment Agency, Welsh Region Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Spectrum Business Park Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3SE (S)	1432	3	338190 348940

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Calypso Soft Drinks Ltd Licence Number: 24/67/7/0213 Permit Version: 100 Location: 144m Deep, 150mm Dia. Borehole Aw1 Authority: Environment Agency, Welsh Region Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: 144M Deep 150mm Diameter Borehole Aw1 Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 10th September 1998 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A3SE (S)	1432	3	338190 348940
	Water Abstractions Operator: Cott Beverages Limited Licence Number: Wa/067/0007/006 Permit Version: Not Supplied Location: Not Supplied Authority: Natural Resources Wales Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3SE (S)	1432	2	338190 348940
	Water Abstractions Operator: Cott Beverages Limited Licence Number: Wa/067/0007/006 Permit Version: Not Supplied Location: Spectrum Business Park, Wrexham, Calypso Soft Drinks Ltd, Unit D-F, Spectrum Business Park, Wrexham Industrial Estate, Wrexham, Wrexham, LI13 9qa Authority: Natural Resources Wales Abstraction: Food And Drink: Process Water Abstraction Type: Water may be abstracted from any point within an area Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A3SE (S)	1432	2	338190 348940
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - Low Vulnerability Combined Vulnerability: Low Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: Low Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: >90% Superficial Thickness: >10m Superficial Recharge: Low	A13NE (NE)	0	2	338035 350363
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13NE (NE)	0	2	338035 350363
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - Undifferentiated	A13NE (NE)	0	2	338035 350363

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
112	**Source Protection Zones** Name: Not Supplied Source: Environment Agency, Head Office Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13NW (NW)	132	3	337957 350469
113	**Source Protection Zones** Name: Not Supplied Source: Natural Resources Wales Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A13NW (NW)	133	2	337956 350470
114	**Source Protection Zones** Name: Not Supplied Source: Natural Resources Wales Reference: Not Supplied Type: Zone III (Total Catchment): The total area needed to support the discharge from the protected groundwater source.	A9SW (SE)	987	2	338553 349524
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	66	2	337970 350365
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13NW (W)	76	2	337960 350370
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
115	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 114.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (W)	87	5	337950 350379
116	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	111	5	337945 350427
117	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	115	5	337944 350432
118	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 486.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13SW (SW)	119	5	337929 350310

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
119	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13SW (W)	123	5	337919 350326
120	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 70.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	125	5	337943 350447
121	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	125	5	337943 350447
122	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 136.8 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13SW (W)	129	5	337910 350332
123	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 125.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	158	5	337908 350455
124	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 45.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	170	5	337961 350515
125	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 225.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	213	5	337954 350559
126	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 83.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13SW (W)	266	5	337775 350315
127	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 12.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	281	5	337795 350508

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
128	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 105.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13SE (S)	283	5	338119 350094
129	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 149.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NW (NW)	288	5	337784 350502
130	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 31.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NE (NE)	339	5	338183 350668
131	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 236.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12SE (W)	340	5	337698 350326
132	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 74.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NE (NE)	356	5	338214 350671
133	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 56.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	388	5	338110 349983
134	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 36.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NE (NE)	404	5	338288 350678
135	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 82.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NW (S)	413	5	338028 349951
136	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A18SW (N)	416	5	337914 350761

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
137	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (NW)	428	5	337660 350567
138	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NE (NE)	430	5	338323 350682
139	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 98.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A13NE (NE)	431	5	338325 350681
140	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 462.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A18SW (N)	435	5	337893 350774
141	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	444	5	338113 349926
142	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	448	5	338113 349922
143	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (NW)	456	5	337643 350594
144	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 46.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (NW)	473	5	337631 350608
145	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 126.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A18SE (NE)	476	5	338313 350750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
146	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 17.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14NW (NE)	476	5	338385 350686
147	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	482	5	338079 349883
148	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	482	5	338083 349884
149	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	483	5	338083 349883
150	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.4 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	484	5	338083 349882
151	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 161.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	494	5	338083 349872
152	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 224.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14NW (NE)	507	5	338482 350601
153	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 99.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14NW (NE)	515	5	338483 350617
154	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 88.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (NW)	519	5	337597 350640

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
155	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 9.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (W)	567	5	337470 350392
156	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 6.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (W)	567	5	337470 350382
157	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 8.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (W)	572	5	337464 350385
158	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 67.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (W)	579	5	337458 350404
159	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 495.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A17SE (NW)	603	5	337543 350710
160	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 41.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (W)	614	5	337425 350429
161	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 65.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14NW (E)	621	5	338651 350443
162	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 104.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NE (W)	642	5	337402 350462
163	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 34.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	646	5	338154 349729

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
164	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 74.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	677	5	338149 349696
165	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 32.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8NE (S)	677	5	338149 349696
166	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 31.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SE (S)	729	5	338125 349640
167	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 64.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	737	5	338757 350219
168	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.7 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NW (W)	738	5	337314 350514
169	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 16.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NW (W)	743	5	337309 350517
170	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 27.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	745	5	338771 350244
171	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NW (W)	759	5	337295 350526
172	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SE (S)	760	5	338134 349610

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
173	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SE (S)	767	5	338134 349603
174	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 195.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NW (W)	769	5	337285 350528
175	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 5.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SE (S)	770	5	338135 349600
176	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 43.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	772	5	338797 350241
177	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 162.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A18NW (N)	773	5	337791 351096
178	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 132.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SE (S)	775	5	338135 349595
179	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 374.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A7NE (SW)	779	5	337621 349704
180	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A7NE (SW)	779	5	337364 349969
181	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 4.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A7SE (SW)	781	5	337665 349676

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 46.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A7SE (SW)	782	5	337669 349673
183	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 52.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A7NW (SW)	792	5	337359 349952
184	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 221.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A9NW (SE)	796	5	338684 349902
185	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 97.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A8SW (SW)	798	5	337699 349640
186	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A8SW (S)	806	5	337981 349560
187	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 204.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A8SW (S)	807	5	337971 349559
188	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	815	5	338841 350240
189	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 151.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A8SE (S)	821	5	338038 349543
190	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 84.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	822	5	338847 350240

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
191	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 77.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A9NE (SE)	824	5	338783 350018
192	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A7NW (SW)	831	5	337346 349901
193	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 109.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	844	5	338823 350060
194	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 70.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A7NW (SW)	844	5	337348 349875
195	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 61.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SW (S)	857	5	337848 349527
196	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 139.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SW (S)	857	5	337848 349527
197	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 186.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SW (S)	876	5	338032 349487
198	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 409.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12SW (W)	880	5	337198 350095
199	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12SW (W)	887	5	337207 350046

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
200	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 67.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12SW (W)	888	5	337208 350042
201	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 24.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A9NE (SE)	896	5	338855 350001
202	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.5 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A9NE (SE)	896	5	338860 350016
203	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A7NW (SW)	901	5	337222 349976
204	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A9NE (SE)	902	5	338867 350014
205	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 50.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A7NW (SW)	902	5	337223 349973
206	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 78.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A7NW (SW)	903	5	337244 349928
207	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SE (S)	904	5	338169 349469
208	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 37.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	905	5	338931 350238

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
209	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 27.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	905	5	338931 350238
210	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 192.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A9NE (SE)	906	5	338872 350016
211	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 154.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SW (S)	907	5	337805 349487
212	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A8SE (S)	907	5	338165 349466
213	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SW (S)	907	5	337805 349487
214	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 5.2 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	910	5	338930 350203
215	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.1 Watercourse Level: Underground Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A7NW (SW)	910	5	337283 349852
216	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 100.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14NE (E)	916	5	338951 350375
217	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 34.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A8SE (S)	916	5	338174 349459

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
218	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 301.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A7NW (SW)	918	5	337272 349855
219	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 86.9 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 2	A7NW (SW)	918	5	337272 349855
220	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	927	5	338954 350241
221	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	931	5	338956 350233
222	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 42.3 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	932	5	338958 350237
223	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A18NW (N)	934	5	337721 351243
224	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.6 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SE (S)	937	5	338149 349434
225	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 582.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A18NW (N)	938	5	337719 351245
226	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A8SE (S)	938	5	338156 349433

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
227	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 809.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Redwither Brook Catchment Name: Dee Primacy: 1	A8SE (S)	948	5	338190 349428
228	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 62.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NW (W)	950	5	337101 350531
229	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 207.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A12NW (W)	950	5	337101 350531
230	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 270.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	951	5	338986 350340
231	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 105.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 2	A7NW (SW)	969	5	337272 349768
232	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 15.0 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	970	5	338997 350247
233	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 12.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A14SE (E)	970	5	339000 350274
234	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 94.1 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A7SE (SW)	993	5	337533 349506
235	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 50.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 1	A7SE (SW)	993	5	337533 349506

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
236	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Dee Primacy: 2	A7SE (S)	1000	5	337674 349431

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
237	**Historical Landfill Sites** Licence Holder: British Celanese Limited Location: Wrexham Name: British Celanese Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD14271 First Input Date: 31st December 1953 Last Input Date: 31st December 1983 Specified Waste Type: Deposited Waste included Industrial Waste and Liquid Sludge EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 6955/0010 BGS Ref: Not Supplied Other Ref: LB/2.3	A8NE (S)	517	2	338076 349848
238	**Integrated Pollution Control Registered Waste Sites** Name: Sterile Technologies (Newcastle) Ltd Location: Wrexham Plant, Marlborough Road, Wrexham Industrial Estate, WREXHAM, CLWYD, LL13 9RJ Authority: Environment Agency, Welsh Region Permit Reference: Bi1595 Dated: 19th September 2000 Process Type: IPC new application Description: 5.1 A (A) Incineration within the Waste Disposal Industry **Status: Authorisation superseded by a substantial or non substantial variation** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	841	3	338531 349684
238	**Integrated Pollution Control Registered Waste Sites** Name: Sterile Technologies (Newcastle) Ltd Location: Wrexham Plant,Marlborough Road,Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RJ Authority: Environment Agency, Welsh Region Permit Reference: Bm2349 Dated: 19th May 2004 Process Type: IPC minor (non-substantial) variation to previous variation Description: 5.1 A (A) Incineration within the Waste Disposal Industry **Status: Revoked - Now IPPC** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	842	3	338538 349688
239	**Licensed Waste Management Facilities (Landfill Boundaries)** Name: W D A - Formerly Erie Electronic 1 Licence Number: 37009 Location: Marlborough Road, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RJ Licence Holder: Welsh Assembly Government Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste Max Input Rate: Not Supplied **Licence Status: Closure** Issued: 2nd March 1997 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A9NW (SE)	720	2	338542 349852
240	**Licensed Waste Management Facilities (Landfill Boundaries)** Name: W D A - Formerly Erie Electronic 2 Licence Number: 37011 Location: Marlborough Road, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RJ Licence Holder: Welsh Assembly Government Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste Max Input Rate: Not Supplied **Licence Status: Closure** Issued: 2nd March 1987 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A9NW (SE)	720	2	338542 349852
241	**Licensed Waste Management Facilities (Locations)** Licence Number: CB3491FL Location: Unit 1, Abbey Road, Redwither Business Park, Wrexham, Wrexham, LL13 9RF Operator Name: AST Plastic Containers UK LLP Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Physical Treatment Facilities **Licence Status: Effective** Issued: 2nd March 2022 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A13NE (NE)	212	2	338169 350527

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
242	**Licensed Waste Management Facilities (Locations)** Licence Number: ZP3795ER Location: Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Operator Name: FCC Recycling (UK) Limited Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Material Recycling Treatment Facilities **Licence Status: Effective** Issued: 27th November 2007 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	647	2	338564 350735
242	**Licensed Waste Management Facilities (Locations)** Licence Number: 100079 Location: Bryn Lane Composting Facility, Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT Operator Name: F C C Recycling (U K) Limited Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Composting **Licence Status: Modified** Issued: 27th November 2007 Last Modified: 22nd August 2012 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A19SW (NE)	647	2	338564 350735
243	**Licensed Waste Management Facilities (Locations)** Licence Number: BP3394FH Location: Marlborough Road, Wrexham, Clwyd, LL13 9RJ Operator Name: Welsh Assembly Government Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste **Licence Status: Effective** Issued: 2nd March 1997 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	779	2	338587 349814
243	**Licensed Waste Management Facilities (Locations)** Licence Number: 37009 Location: Marlborough Road, Wrexham Ind Est, Wrexham, LL13 9RJ Operator Name: Welsh Assembly Government Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste **Licence Status: Closed** Issued: 2nd March 1997 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	779	2	338587 349814

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
243	**Licensed Waste Management Facilities (Locations)** Licence Number: BP3994FJ Location: Wrexham Ind Est, Wrexham, Clwyd, LL13 9RJ Operator Name: Welsh Assembly Government Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste **Licence Status: Effective** Issued: 2nd March 1987 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	779	2	338587 349814
243	**Licensed Waste Management Facilities (Locations)** Licence Number: 37011 Location: Marlborough Road, Wrexham Ind Est, Wrexham, LL13 9RJ Operator Name: Welsh Assembly Government Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste **Licence Status: Closed** Issued: 2nd March 1987 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	779	2	338587 349814
243	**Licensed Waste Management Facilities (Locations)** Licence Number: RP3237SZ Location: Wrexham Clinical Waste Treatment And Transfer Station, Wrexham Industrial Estate, Wrexham, Clwyd, Wrexham, LL13 9RJ Operator Name: Sita U K Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Physical Treatment Facilities **Licence Status: Expired** Issued: 6th March 2001 Last Modified: Not Supplied Expires: 9th February 2004 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	807	2	338591 349778
244	**Licensed Waste Management Facilities (Locations)** Licence Number: PP3892FX Location: Wrexham Clinical Waste Treatment Plant & Transfer Station, Wrexham Industrial Estate, Wrexham, Clwyd, Wrexham, LL13 9RJ Operator Name: Sterile Technologies (Newcastle) Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Physical Treatment Facilities **Licence Status: Expired** Issued: 23rd June 2006 Last Modified: Not Supplied Expires: 23rd June 2006 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	843	2	338582 349722

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
244	**Licensed Waste Management Facilities (Locations)** Licence Number: AB3033RL Location: Wrexham Clinical Waste Treatment And Transfer Station, Land / Premises At, Marlborough Road, Wrexham Industrial Estate, Wrexham, Clwyd, Wrexham, LL13 9RJ Operator Name: Sita U K Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Clinical Waste Transfer Station **Licence Status: Expired** Issued: 6th March 2001 Last Modified: Not Supplied Expires: 15th March 2017 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	843	2	338582 349722
244	**Licensed Waste Management Facilities (Locations)** Licence Number: 37223 Location: Land / Premises At, Marlborough Road, Wrexham Industrial Estate, Wrexham, LL13 9RJ Operator Name: Sita U K Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Clinical Waste Transfer Stations **Licence Status: Modified** Issued: 6th March 2001 Last Modified: 27th October 2011 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	843	2	338582 349722
244	**Licensed Waste Management Facilities (Locations)** Licence Number: 37223 Location: Eurocare Environmental Services Ltd, Malborough Road, Wrexham Industrial Estate, Wrexham, LL13 9RJ Operator Name: Eurocare Environmental Services Ltd Operator Location: Mailing Suite 1, St Peters Wharf, Newcastle Upon Tyne, NE6 1TZ Authority: Environment Agency Wales, North Area Site Category: Physical Treatment Facilities **Licence Status: Modified** Issued: 6th March 2001 Last Modified: 10th June 2002 Expires: 12th December 2001 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	844	3	338593 349731
244	**Licensed Waste Management Facilities (Locations)** Licence Number: MP3894FG Location: Marlborough Road Clinical Waste, Wrexham Industrial Estate, Wrexham, Clwyd, Wrexham, LL13 9RJ Operator Name: Sterile Technologies (Newcastle) Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Expired** Issued: 12th October 1992 Last Modified: Not Supplied Expires: 9th February 2004 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	845	2	338582 349719

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
244	**Licensed Waste Management Facilities (Locations)** Licence Number: 37043 Location: Malborough Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RJ Operator Name: Sterile Technologies (Newcastle) Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: To PPC** Issued: 12th October 1992 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NW (SE)	845	2	338582 349719
245	**Licensed Waste Management Facilities (Locations)** Licence Number: 103238 Location: Wrexham Recycling Park, Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT Operator Name: Waste Recycling Limited Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Treatment - Biological **Licence Status: Issued** Issued: 18th April 2012 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	864	2	338758 349891
246	**Licensed Waste Management Facilities (Locations)** Licence Number: DP3294FH Location: Land / Premises At, Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Operator Name: 3C Waste Limited Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household Waste Amenity Sites **Licence Status: Effective** Issued: 30th June 2004 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SE (E)	896	2	338898 350124
246	**Licensed Waste Management Facilities (Locations)** Licence Number: 37259 Location: Land / Premises At, Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT Operator Name: Waste Recycling Group Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household Waste Amenity Sites **Licence Status: Modified** Issued: 30th June 2004 Last Modified: 8th March 2011 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14SE (E)	896	2	338898 350124

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
247	**Licensed Waste Management Facilities (Locations)** Licence Number: XP3691EG Location: Bryn Estyn Rd, Llan -y- Pwll, Wrexham, Clwyd, LL13 9UB Operator Name: William Lewis Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Other Landfill Sites Taking Special Waste **Licence Status: Effective** Issued: 21st February 2019 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	907	2	337642 351180
247	**Licensed Waste Management Facilities (Locations)** Licence Number: XP3691EG Location: Clays Site, Llan -y- Pwll, Wrexham, Clwyd, Wrexham, LL13 9UB Operator Name: William Lewis Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Not Supplied **Licence Status: Effective** Issued: 5th January 2018 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	907	2	337642 351180
247	**Licensed Waste Management Facilities (Locations)** Licence Number: 102738 Location: Clays Site, Bryn Estyn Road, Llan -y- Pwll, Wrexham, LL13 9UB Operator Name: Clays Farm Golf Centre Limited Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Use of waste in construction <100,000 tps **Licence Status: Issued** Issued: 5th October 2011 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	907	2	337642 351180
248	**Licensed Waste Management Facilities (Locations)** Licence Number: AP3394FT Location: Redwither Road Transfer Station, Unit 1, Wrexham Industrial Estate, Wrexham, Clwyd, Wrexham, LL13 9RD Operator Name: North Western Insulation Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Special Waste Transfer Stations **Licence Status: Expired** Issued: 19th February 2001 Last Modified: Not Supplied Expires: 1st May 2012 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SE (S)	937	2	338150 349434

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
248	**Licensed Waste Management Facilities (Locations)** Licence Number: AP3394FT Location: Redwither Road Transfer Station, Unit 1, Wrexham Industrial Estate, Wrexham, Clwyd, Wrexham, LL13 9RD Operator Name: North Western Insulation Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Expired** Issued: 19th February 2001 Last Modified: Not Supplied Expires: 1st May 2012 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SE (S)	937	2	338150 349434
248	**Licensed Waste Management Facilities (Locations)** Licence Number: 37221 Location: Unit 1, Redwither Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RD Operator Name: North Western Insulation Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Special Waste Transfer Stations **Licence Status: Expired** Issued: 19th February 2001 Last Modified: 17th March 2006 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SE (S)	937	2	338150 349434
249	**Licensed Waste Management Facilities (Locations)** Licence Number: YP3994FY Location: Wrexham Industrial Estate, Wrexham, LL13 9RD Operator Name: Entrec Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Vehicle Dismantlers) **Licence Status: Effective** Issued: 2nd December 2020 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SE (S)	943	2	338251 349446
249	**Licensed Waste Management Facilities (Locations)** Licence Number: 37267 Location: Entrec Ltd, Redwither Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Operator Name: Entrec Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Metal Recycling Sites (Vehicle Dismantlers) **Licence Status: Modified** Issued: 8th September 2004 Last Modified: 7th May 2014 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SE (S)	943	2	338251 349446

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
249	**Licensed Waste Management Facilities (Locations)** Licence Number: 37211 Location: Site One, Redwither Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Operator Name: Alan's Skip Hire (Wales) Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Household, Commercial And Industrial Transfer Stations **Licence Status: Modified** Issued: 9th March 2000 Last Modified: 15th April 2015 Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SE (S)	982	2	338244 349404
250	**Licensed Waste Management Facilities (Locations)** Licence Number: TP3594FK Location: Bluestone Chemicals Ltd, Wrexham Industrial Estate, Wrexham, Clwyd, Wrexham, LL13 9RD Operator Name: Bluestone Chemicals Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Chemical treatment facility **Licence Status: Expired** Issued: 17th January 1994 Last Modified: Not Supplied Expires: 13th September 1999 Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SE (S)	954	2	338340 349460
250	**Licensed Waste Management Facilities (Locations)** Licence Number: 37094 Location: Bluestone Chemicals, Redwither Rd, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RD Operator Name: Bluestone Chemicals Ltd Operator Location: Not Supplied Authority: Natural Resources Wales Site Category: Treatment - Chemical **Licence Status: Expired** Issued: 17th January 1994 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8SE (S)	954	2	338340 349460
	Local Authority Landfill Coverage Name: Wrexham County Borough Council - Has supplied landfill data		0	6	338035 350363
251	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NE (NE)	131	-	338110 350470
252	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NE (NE)	158	-	338153 350468
253	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13SE (SE)	164	-	338123 350225
254	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13SE (SE)	179	-	338189 350272
255	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13SE (SE)	210	-	338223 350271
256	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NW (N)	213	-	337962 350563
257	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NE (E)	267	-	338302 350365

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
258	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13NW (NW)	276	-	337799 350505
259	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13SW (W)	326	-	337714 350316
260	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1881	A13NW (NW)	336	-	337785 350587
261	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13SE (SE)	371	-	338326 350134
262	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A13SW (SW)	373	-	337773 350099
263	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A8NW (S)	399	-	337944 349975
264	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A8NE (S)	464	-	338198 349929
265	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12SE (W)	472	-	337564 350361
266	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	489	-	337686 350704
267	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (W)	496	-	337564 350515
268	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A14SW (SE)	519	-	338455 350059
269	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A17SE (NW)	522	-	337667 350732
270	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A8NW (SW)	529	-	337757 349914
271	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (W)	538	-	337532 350552
272	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1881	A14NW (E)	539	-	338572 350409
273	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1881	A8NW (S)	546	-	337926 349829
274	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12NE (W)	550	-	337486 350377
275	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A18SE (NE)	558	-	338265 350871
276	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A18SE (NE)	567	-	338356 350830
277	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1881	A14NW (E)	576	-	338609 350403
278	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A9NW (SE)	581	-	338410 349919

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
279	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A8NW (SW)	588	-	337709 349874
280	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A12SE (W)	595	-	337442 350327
281	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A14SW (E)	601	-	338625 350251
282	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A9NW (SE)	603	-	338434 349911
283	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A18SE (N)	603	-	338099 350962
284	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1954	A19SW (NE)	615	-	338456 350810
285	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1881	A8NW (S)	628	-	337954 349741
286	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12SE (W)	652	-	337403 350203
287	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14NW (NE)	658	-	338618 350669
288	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1881	A8NW (S)	662	-	337847 349729
289	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1954	A19SW (NE)	665	-	338491 350847
290	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7NE (SW)	679	-	337482 349971
291	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A8NE (S)	679	-	338253 349720
292	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12SW (W)	681	-	337355 350341
293	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1881	A19SW (NE)	681	-	338520 350841
294	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A14SE (E)	704	-	338722 350213
295	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7NE (SW)	709	-	337448 349967
296	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19SW (NE)	724	-	338587 350832
297	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12SW (W)	775	-	337282 350183
298	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A9NW (SE)	786	-	338520 349746
299	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1954	A19SE (NE)	791	-	338715 350768

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
300	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14NE (E)	799	-	338809 350561
301	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A14SE (E)	805	-	338838 350303
302	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A8SW (S)	837	-	337749 349577
303	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14NE (E)	858	-	338878 350521
304	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	878	-	337482 349682
305	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14NE (E)	884	-	338861 350679
306	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14NE (E)	888	-	338877 350646
307	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SE (SW)	892	-	337468 349676
308	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7NE (SW)	894	-	337423 349712
309	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7NE (SW)	904	-	337401 349720
310	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A8SW (S)	911	-	337702 349516
311	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1954	A18NW (N)	937	-	337977 351298
312	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A8SW (S)	947	-	337797 349448
313	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1954	A18NW (N)	957	-	337939 351315
314	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1964	A14SE (E)	960	-	338941 350047
315	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7SW (SW)	966	-	337353 349681
316	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A7NW (SW)	997	-	337285 349707

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
317	**Registered Landfill Sites** Licence Holder: British Celanese Licence Reference: L10 Site Location: British Celanese, Industrial Estate, Wrexham, Clwyd Licence Easting: 338000 Licence Northing: 349770 Operator Location: As Site Address Authority: Environment Agency Wales, North Area Site Category: Landfill Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st June 1977 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Asbestos Cellulose Waste Contaminated Waste Delagged Pipes Oil/Water Mixtures	A8NW (S)	595	3	338000 349770
318	**Registered Landfill Sites** Licence Holder: Welsh Development Agency Licence Reference: NOW-518/519-L L44/44A Site Location: Erie Electronics Site, Wrexham Industrial Estate, Wrexham, Clwyd Licence Easting: 338550 Licence Northing: 349800 Operator Location: As Site Address Authority: Environment Agency Wales, North Area Site Category: Landfill Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Status: Site Closed Dated: 1st March 1987 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Environment Agency must give specific authorisation for this waste to be acceptedWaste requires prior approval: Soil Contam. With Pcb	A9NW (SE)	763	3	338550 349800
319	**Registered Waste Transfer Sites** Licence Holder: Reynolds Services - North Western Insul' Licence Reference: EAWML37221 Site Location: Redwither Road Transfer Station, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RD Operator Location: Redwither Road Transfer Station, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RD Authority: Environment Agency Wales, North Area Site Category: Transfer Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Site not yet started Dated: 19th February 2001 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Asbestos Maximum Waste Permitted By Licence Prohibited Waste: Liquid Wastes Other Waste / Waste Not Otherwise Specified Sludge Wastes Special Waste (As In Epa 1990:S62 Of 1996 Regs) Not Otherwise Specified	A8SE (S)	942	3	338160 349430

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
320	**Registered Waste Treatment or Disposal Sites** Licence Holder: Eurocare Environmental Services Ltd Licence Reference: EAWML37223 Site Location: Marlborough Road, Wrexham Industrial Estate, Wrexham, Clwyd, LI13 9rj Operator Location: Maling Suite, 1 St Peters Wharf, NEWCASTLE UPON TYNE, Tyne and Wear, NE6 1TZ Authority: Environment Agency Wales, North Area Site Category: Transfer - with treatment Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 6th March 2001 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Household Waste Incidental To Clinical Waste - Eg Flowers, Newspapers Maximum Waste Permitted By Licence Non-Special Clinical Waste Pharmaceutical Waste Prescription Only Medical Products Special Waste (As In Epa 1990:S62 Of 1996 Regs) - Consisting Only Of Prohibited Waste: Clinical Waste With Hazard Groups 2, 3, 4 Household/Commercial/Industrial Waste (As In Post'98 E.A.Lics And Equivalent To 22.09.00) Inert Materials (As In Post'98 E.A.Lics And Equivalent To 21.00.00) Liquid Waste (Other Than Blood, Urine In Containers < 5 Litre Cap'Y) Material With Any Haz.Code In(H1, H2, H3a,H8,H9,H12) Metal Waste/Scrap Metal (As In Post'98 E.A.Lics And Equivalent To 23.00.00) Other Waste / Waste Not Otherwise Specified Sludge Wastes Unpackaged Waste Environment Agency must give specific authorisation for this waste to be acceptedWaste requires prior approval: Other Household/Com./Ind. Waste - Eg Confidential Papers	A9NW (SE)	834	3	338600 349750
320	**Registered Waste Treatment or Disposal Sites** Licence Holder: Aggregates & Equipment Ltd Licence Reference: L52A Site Location: Marlborough Road, Wrexham Industrial Estate, Wrexham, Clwyd, LI13 9rj Operator Location: As Site Address Authority: Environment Agency Wales, North Area Site Category: Transfer - with Baling(compaction) Max Input Rate: Medium (Equal to or greater than 25,000 and less than 75,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st February 1990 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: House, Com + Ind.Waste Metal Paper/Cardboard/Packaging Waste Timber	A9NW (SE)	840	3	338550 349700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
320	**Registered Waste Treatment or Disposal Sites** Licence Holder: Trinco Ltd Licence Reference: NOW-507-L (L69) Site Location: Off Marlborough Road, Wrexham Industrial Estate, Wrexham, Clwyd Operator Location: 125 Richmond Place, Boughton, CHESTER, Cheshire, CH3 5BJ Authority: Environment Agency Wales, North Area Site Category: Incineration Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 1st October 1992 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Supplied Authorised Waste: Clin.Waste-Gps Aa,B,C,B,C,D,E Hsc'82 Hospital Wastes Which Includes Clin. Prohibited Waste: Liquified Gas / Gas Under Pressure Mercury & Its Cpds Radioactive Wastes Spec.Waste (Epa'90:S62/1996 Regs) Waste N.O.S. Environment Agency must give specific authorisation for this waste to be acceptedWaste requires prior approval: Other Combustible Waste	A9NW (SE)	842	3	338590 349730
321	**Registered Waste Treatment or Disposal Sites** Licence Holder: Bluestone Chemicals Ltd Licence Reference: NOW-524-L (L76) Site Location: Redwither Road, Wrexham Industrial Estate, Wrexham, Clwyd Operator Location: Coniston, Wynnstay Lane, Marford, WREXHAM, Clwyd, LL12 8YA Authority: Environment Agency Wales, North Area Site Category: Transfer - with treatment Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: Waste produced/controlled by licence holder Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 17th January 1994 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the road within the address or location Boundary Quality: Not Supplied Authorised Waste: Chromium Hydroxide Filter Cake Maximum Quantity Storage Other Class.Spent Catalysts-Agreed Wra Spent Copper Chromite Catalysts Spent Nickel Catalyst	A8SE (S)	951	3	338300 349450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
322	**Registered Waste Treatment or Disposal Sites** Licence Holder: Alpha Environmental Management Ltd Licence Reference: EAWML37211 Site Location: Site 1 Redwither Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RD Operator Location: Singret Cottage, Singret Hill, Llay, WREXHAM, Clwyd, LL12 0NS Authority: Environment Agency Wales, North Area Site Category: Transfer Max Input Rate: Small (Equal to or greater than 10,000 and less than 25,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Licence Status: Operational as far as is knownOperational Dated: 9th March 2000 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Quality: Not Supplied Authorised Waste: Maximum Waste Permitted By Licence Solid, Dry Non-Haz. Degradable Commercial Waste Solid, Dry Non-Haz. Degradable Household Waste Solid, Dry Non-Haz. Degradable Industrialwaste Solid, Dry Non-Haz. Inert Waste Solid, Dry Non-Haz. Metal Waste With Annual Maximum Prohibited Waste: Liquid Wastes Other Waste/Waste Not Otherwise Specified Sludge Wastes Special Waste (As In Epa 1990:S62 Of 1996 Regs)	A8SE (S)	970	3	338180 349405
322	**Registered Waste Treatment or Disposal Sites** Licence Holder: North Western Insulation Licence Reference: L81 Site Location: Wrexham Industrial Estate, Wrexham, Clwyd Operator Location: As Site Address Authority: Environment Agency Wales, North Area Site Category: Storage Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 1st April 1994 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Approximate location provided by supplier Boundary Quality: Not Supplied Authorised Waste: Bonded Asbestos Fibrous Asbestos,Chrysotile & Amosite Prohibited Waste: Slurried Or Otherwise Mobile Waste	A8SE (S)	978	3	338200 349400

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Warwickshire Group	A13NE (NE)	0	1	338035 350363
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil and Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (NE)	0	1	338035 350363
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NW (W)	36	1	338000 350363
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: 100 - 200 mg/kg Nickel Concentration: 15 - 30 mg/kg	A9SW (SE)	981	1	338500 349500
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas Description: In an area which may be affected by coal mining activity. It is recommended that a coal mining report is obtained from the Coal Authority. Contact details are included in the Useful Contacts section of this report.	A13NE (NE)	0	7	338035 350363
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	338035 350363
	Potential for Compressible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	338035 350363
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	69	1	337973 350392
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	338035 350363
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	338035 350363
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	338035 350363

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	69	1	337973 350392
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	338035 350363
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	338035 350363
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	0	1	338035 350363

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
323	**Contemporary Trade Directory Entries** Name: Vernons Of Wrexham Services Ltd Location: Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	146	-	337917 350448
323	**Contemporary Trade Directory Entries** Name: Clarke'S Equine Coachworks Location: Unit 416, Ash Road North, Wrexham, LL13 9UF Classification: Horse Boxes & Transporting **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	168	-	337929 350492
323	**Contemporary Trade Directory Entries** Name: D J L Haulage Location: Unit 411, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UF Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	203	-	337937 350540
323	**Contemporary Trade Directory Entries** Name: Loweroak Ltd Location: Unit 411, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UF Classification: Sand, Gravel & Other Aggregates **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	203	-	337937 350540
323	**Contemporary Trade Directory Entries** Name: Ash Tyres Wrexham Location: Ash Rd North, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UF Classification: Garage Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NW (NW)	204	-	337896 350511
323	**Contemporary Trade Directory Entries** Name: Wockhardt (Uk) Ltd Location: Ash Rd North, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UF Classification: Pharmaceutical Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NW (NW)	204	-	337896 350511
323	**Contemporary Trade Directory Entries** Name: Loweroak Location: Unit 411, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9UF Classification: Sand, Gravel & Other Aggregates **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	206	-	337926 350537
324	**Contemporary Trade Directory Entries** Name: Conren Ltd Location: Unit 1, Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	174	-	338073 350194
324	**Contemporary Trade Directory Entries** Name: Nightingale Care Beds Location: Unit 1, Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Medical Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	174	-	338073 350194
324	**Contemporary Trade Directory Entries** Name: Betts Uk Ltd Location: Ash Road South,Wrexham Indust Est, Wrexham, Clwyd, LL13 9UG Classification: Plastics - Injection Moulding **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SE (S)	217	-	338057 350148
325	**Contemporary Trade Directory Entries** Name: I M C Location: Abbey Road, Wrexham Industrial Estate, Wrexham, LL13 9RF Classification: Catering Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	192	-	338177 350492

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
325	**Contemporary Trade Directory Entries** Name: H O Y A Location: Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UA Classification: Optical Goods - Manufacturers **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A13NE (NE)	215	-	338170 350530
325	**Contemporary Trade Directory Entries** Name: Hoya Lens Uk Ltd Location: Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UA Classification: Optical Goods - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	215	-	338170 350530
326	**Contemporary Trade Directory Entries** Name: C L Products Ltd Location: Unit 424a, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UF Classification: Precision Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	194	-	337860 350444
327	**Contemporary Trade Directory Entries** Name: Central Machining Services Location: Unit 404, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UF Classification: Precision Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (N)	208	-	338048 350571
327	**Contemporary Trade Directory Entries** Name: C M S Wrexham Ltd Location: Unit 404, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UF Classification: Precision Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (N)	208	-	338048 350571
327	**Contemporary Trade Directory Entries** Name: C N S Contract Cleaning Location: Unit 401, Abbey Road, Wrexham, LL13 9UF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (N)	214	-	338085 350571
328	**Contemporary Trade Directory Entries** Name: Mark Specialist Applications Ltd Location: Unit 2e, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Classification: Blast Cleaning Equipment Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (W)	216	-	337823 350398
328	**Contemporary Trade Directory Entries** Name: Royalite Industrial Sheet A Division Of Vita Thermoplastic Sheet Ltd Location: Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Plastic Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	228	-	337813 350413
328	**Contemporary Trade Directory Entries** Name: I P S Location: Unit 3, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Classification: Packaging Materials Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (W)	229	-	337813 350413
328	**Contemporary Trade Directory Entries** Name: C & J Partnership Location: Unit 4b, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	242	-	337795 350385
328	**Contemporary Trade Directory Entries** Name: W T T C Ltd Location: Unit 4b, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Trailers & Towing Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	242	-	337795 350385

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
328	**Contemporary Trade Directory Entries** Name: Sandstone Brewery Location: Unit 5a, Wrexham Enterprise Park, Ash Road North, Wrexham, LL13 9JT Classification: Brewers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (W)	244	-	337794 350396
329	**Contemporary Trade Directory Entries** Name: Oscar Mayer Location: Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	224	-	337838 350260
329	**Contemporary Trade Directory Entries** Name: Oscar Mayer Ltd Location: Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	224	-	337838 350260
329	**Contemporary Trade Directory Entries** Name: Hazlewood Ready Meals Location: Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	224	-	337838 350260
330	**Contemporary Trade Directory Entries** Name: Maelor Display Systems Ltd Location: Unit 9, Ash Road South, Wrexham Industrial Estate, Wrexham, LL13 9UG Classification: Electronic Equipment - Manufacturers & Assemblers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	232	-	338093 350139
330	**Contemporary Trade Directory Entries** Name: Ledtech Location: Ash Road South, Wrexham Industrial Estate, Wrexham, LL13 9UG Classification: Lighting Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (S)	232	-	338093 350139
331	**Contemporary Trade Directory Entries** Name: George L Williams Location: Ash Rd South, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UG Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (S)	236	-	338026 350128
332	**Contemporary Trade Directory Entries** Name: Advanced Vehicle Servicing Location: Unit 5, Ash Road South, Wrexham, LL13 9UG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	245	-	338151 350147
333	**Contemporary Trade Directory Entries** Name: Industrial Encoders Direct Ltd Location: Unit D1, Dutton Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UL Classification: Industrial Instrument & Apparatus Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	262	-	338248 350210
334	**Contemporary Trade Directory Entries** Name: Transcontinental Location: Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9UF Classification: Coating Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (N)	275	-	338029 350637
335	**Contemporary Trade Directory Entries** Name: H E Hydraulics Location: Ash Rd North, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UF Classification: Engineering Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13NW (NW)	285	-	337778 350484
336	**Contemporary Trade Directory Entries** Name: S G Logistics Location: Ash Rd South, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UG Classification: Distribution Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SE (S)	316	-	338090 350052

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
336	**Contemporary Trade Directory Entries** Name: A A D Wholesale Foods Location: Ash Rd South, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UG Classification: Meat - Wholesale **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8NE (S)	354	-	338096 350015
337	**Contemporary Trade Directory Entries** Name: Koala Nationwide Ltd Location: Ash Rd North, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UF Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13NW (W)	319	-	337740 350482
337	**Contemporary Trade Directory Entries** Name: Cheap Tyres Location: Unit 424b,Ash Rd North, Wrexham Ind Est, Wrexham, Clwyd, LL13 9JT Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NW (W)	339	-	337708 350449
337	**Contemporary Trade Directory Entries** Name: Playford Packaging Location: Ash Road North, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9JT Classification: Boxes & Cartons **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (W)	339	-	337708 350449
337	**Contemporary Trade Directory Entries** Name: Ash Road Tyres Location: Unit 424b,Ash Rd North, Wrexham Ind Est, Wrexham, Clwyd, LL13 9JT Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13NW (W)	339	-	337708 350449
338	**Contemporary Trade Directory Entries** Name: Tweeks Cycles Location: UNIT 75, ASH ROAD SOUTH, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9UG Classification: Cycle Accessories, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	338	-	338178 350057
338	**Contemporary Trade Directory Entries** Name: Demon Tweeks Location: Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Cycle Accessories, Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	339	-	338179 350057
338	**Contemporary Trade Directory Entries** Name: Demon Tweeks Fitting Centre Location: Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	339	-	338179 350057
338	**Contemporary Trade Directory Entries** Name: Demon Tweeks Performance Location: Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Car Customisation & Conversion Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	339	-	338179 350057
339	**Contemporary Trade Directory Entries** Name: Norwood Williams & Sons Location: Ash Rd South, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UG Classification: Wrought Ironwork **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	343	-	337782 350133
339	**Contemporary Trade Directory Entries** Name: Andrews Logistics Location: Ash Rd South, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UG Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A13SW (SW)	348	-	337766 350144

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
339	**Contemporary Trade Directory Entries** Name: Clwyd Transport Services Ltd Location: Clwyd House, Ash Road South, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UG Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SW (SW)	365	-	337767 350117
340	**Contemporary Trade Directory Entries** Name: Bryn Roberts Workshops Ltd Location: BRYN ROBERTS LTD, ABBEY ROAD NORTH, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9RX Classification: Joinery Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	355	-	338306 350593
341	**Contemporary Trade Directory Entries** Name: Maelor Trafflex Ltd Location: Abbey Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RX Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	360	-	338235 350662
341	**Contemporary Trade Directory Entries** Name: Dragon Engineering Location: Unit 3, Abbey Road, Wrexham, LL13 9RX Classification: Hydraulic Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	362	-	338237 350664
341	**Contemporary Trade Directory Entries** Name: Dragon Hydraulics Location: Unit 3, Abbey Road, Wrexham, LL13 9RX Classification: Hydraulic Equipment & Accessories - Sales & Service **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	362	-	338237 350664
342	**Contemporary Trade Directory Entries** Name: J C B Transmission Location: Unit 1, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Gearboxes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	370	-	337845 350680
342	**Contemporary Trade Directory Entries** Name: Jcb Transmissions Location: Unit 1, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Gearboxes **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	370	-	337845 350680
343	**Contemporary Trade Directory Entries** Name: Omega Technical Supplies Ltd Location: Unit D5, Dutton Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UL Classification: Machinery - Industrial & Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	376	-	338296 350093
343	**Contemporary Trade Directory Entries** Name: Pure Transfer Location: Unit 2,Dutton Rd, Redwither Business Pk, Wrexham, Clwyd, LL13 9UL Classification: Pharmaceutical Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A13SE (SE)	376	-	338296 350093
343	**Contemporary Trade Directory Entries** Name: Paul Bristow Associates Ltd Location: Unit D6, Dutton Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UL Classification: Printers Textile **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	391	-	338302 350078
343	**Contemporary Trade Directory Entries** Name: I F A Ltd Location: Unit D7, Dutton Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UL Classification: Flow Measurement Systems - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	418	-	338315 350053

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
343	**Contemporary Trade Directory Entries** Name: C M W Controls Ltd Location: 7 Dutton Rd, Redwither Business Pk, Wrexham, Clwyd, LL13 9UL Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A13SE (SE)	418	-	338314 350052
344	**Contemporary Trade Directory Entries** Name: Wrexham Wire Location: Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Wire Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	384	-	337733 350600
345	**Contemporary Trade Directory Entries** Name: J C B Drivetrain Systems Location: Unit 1, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Engine Manufacturers & Distributors **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SW (N)	384	-	337967 350741
346	**Contemporary Trade Directory Entries** Name: Big Hand Brewing Company Location: Unit A1, Abbey Close, Redwither Business Park, Wrexham, LL13 9XG Classification: Brewers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	386	-	338381 350533
346	**Contemporary Trade Directory Entries** Name: Ceramic Pro North Wales Location: Liam House, Abbey Road, Wrexham, LL13 9RX Classification: Car Washing & Polishing Equipment & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	391	-	338371 350562
346	**Contemporary Trade Directory Entries** Name: Discount Central Heating Supplies Location: Unit A2, Abbey Close, Redwither Business Park, Wrexham, Clwyd, LL13 9XG Classification: Central Heating Supplies & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	393	-	338393 350526
346	**Contemporary Trade Directory Entries** Name: Auto Tec Location: Shannon House, Abbey Road North, Wrexham, LL13 9RX Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	399	-	338377 350567
347	**Contemporary Trade Directory Entries** Name: Goodfellow Uk Location: Unit 4 First Avenue, Redwither Business Park, Wrexham, Clwyd, LL13 9XP Classification: Floorcoverings - Manufacturers & Wholesalers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	392	-	338400 350221
347	**Contemporary Trade Directory Entries** Name: Ningbo Palletised Distribution Location: Building 4, First Avenue, Redwither Business Park, Wrexham, LL13 9XP Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	392	-	338400 350221
347	**Contemporary Trade Directory Entries** Name: Ningbo Palletised Distribution Location: UNIT 4, REDWITHER COMPLEX, FIRST AVENUE, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9XP Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	392	-	338400 350221
347	**Contemporary Trade Directory Entries** Name: Ningbo Furniture Location: Unit 2 Redwither Business Park,First Avenue, Redwither Business Park, Wrexham, Clwyd, LL13 9XP Classification: Distribution Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14SW (E)	396	-	338404 350221

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
347	**Contemporary Trade Directory Entries** Name: Mccarthy Haulage Location: Building 4, First Avenue, Redwither Business Park, Wrexham, Clwyd, LL13 9XP Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	396	-	338404 350221
347	**Contemporary Trade Directory Entries** Name: Ningbo Distributors Location: Unit 4 Wrexham Industrial Estate,First Avenue, Redwither Business Park, Wrexham, Clwyd, LL13 9XP Classification: Distribution Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14SW (E)	396	-	338404 350221
348	**Contemporary Trade Directory Entries** Name: Evans Environmental Location: Redwither Business Centre, Redwither Business Pk, Wrexham, Clwyd, LL13 9XR Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14NW (E)	392	-	338426 350382
348	**Contemporary Trade Directory Entries** Name: Engtechniques Ltd Location: 15 Redwither Business Centre, Redwither Business Pk, Wrexham, Clwyd, LL13 9XR Classification: Materials Handling Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	405	-	338439 350338
348	**Contemporary Trade Directory Entries** Name: Electricity Solutions Location: Redwither Business Centre, Redwither Business Pk, Wrexham, Clwyd, LL13 9XR Classification: Electrical Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	405	-	338439 350338
348	**Contemporary Trade Directory Entries** Name: Gesnl Location: Office 10, Redwither Business Centre, Redwither Business Park, Wrexham, Clwyd, LL13 9XR Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	406	-	338440 350339
348	**Contemporary Trade Directory Entries** Name: P H Jones Location: Office F5, Redwither Business Centre, Redwither Business Park, Wrexham, Clwyd, LL13 9XR Classification: Boilers - Servicing, Replacements & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	406	-	338440 350339
348	**Contemporary Trade Directory Entries** Name: Arrow Environmental Services Ltd Location: Unit 10, First Floor, Redwither Business Centre, Redwither Business Park, Wrexham, Clwyd, LL13 9XR Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	406	-	338440 350339
348	**Contemporary Trade Directory Entries** Name: Home Style Roof Line Products Ltd Location: Redwither Business Centre, Redwither Business Park, Wrexham, Clwyd, LL13 9XR Classification: Cladding Suppliers & Installers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A14SW (E)	406	-	338440 350339
348	**Contemporary Trade Directory Entries** Name: Applied Products Location: Unit P, Ground Floor, Redwither Business Centre, Redwither Business Park, Wrexham, Clwyd, LL13 9XR Classification: Window Tinting **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	406	-	338440 350339

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
349	**Contemporary Trade Directory Entries** Name: Jami Q'S Location: Abbey Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RF Classification: T-Shirts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	403	-	338307 350660
349	**Contemporary Trade Directory Entries** Name: A & S Jones Location: Abbey Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RX Classification: Kitchen Furniture Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	417	-	338334 350654
350	**Contemporary Trade Directory Entries** Name: Cortecs Healthcare Ltd Location: Wrexham Indust Est,Abbey Rd, Wrexham, Clwyd, LL13 9PW Classification: Medical Instruments - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14NW (E)	414	-	338443 350432
351	**Contemporary Trade Directory Entries** Name: Cema Location: Blackwood House, Ash Road South, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UG Classification: Automation Systems & Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A12SE (SW)	424	-	337655 350179
352	**Contemporary Trade Directory Entries** Name: Petcor Ltd Location: Unit A4,Abbey Close, Redwither Business Park, Wrexham, Clwyd, LL13 9XG Classification: Pet Foods & Animal Feeds **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A14NW (NE)	427	-	338410 350566
352	**Contemporary Trade Directory Entries** Name: A W R Engineering Services Location: Unit A11, Abbey Close, Redwither Business Park, Wrexham, Clwyd, LL13 9XG Classification: Precision Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	444	-	338442 350542
352	**Contemporary Trade Directory Entries** Name: Wrexham Autogas Ltd Location: Unit 7,Abbey Cl, Redwither Business Pk, Wrexham, Clwyd, LL13 9XG Classification: Autogas Suppliers & Installers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14NW (NE)	462	-	338440 350584
352	**Contemporary Trade Directory Entries** Name: Discount Central Heating Supplies Location: Unit A7, Abbey Close, Redwither Business Park, Wrexham, Clwyd, LL13 9XG Classification: Central Heating Supplies & Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	463	-	338441 350585
352	**Contemporary Trade Directory Entries** Name: N S Eastern Cuisine Location: Unit A8, Abbey Close, Redwither Business Park, Wrexham, Clwyd, LL13 9XG Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	467	-	338449 350579
353	**Contemporary Trade Directory Entries** Name: Cns Cleaning Ltd Location: 401 Abbey Road North, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RF Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14NW (E)	440	-	338474 350394
353	**Contemporary Trade Directory Entries** Name: Space Age Manufacturing Location: Units 231 Abbey Rd,Redwither Industrial Complex, Wrexham, Clwyd, LL13 9UE Classification: Precision Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14NW (E)	441	-	338475 350388

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
354	**Contemporary Trade Directory Entries** Name: Link Engineering & Welding Ltd Location: Abbey Road North, Wrexham Industrial Estate, Wrexham, LL13 9RX Classification: Engineers - General **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	453	-	338418 350604
354	**Contemporary Trade Directory Entries** Name: Link Power Transmissions Location: Abbey Road North, Wrexham Industrial Estate, Wrexham, LL13 9RX Classification: Power Transmission Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NW (NE)	453	-	338418 350604
355	**Contemporary Trade Directory Entries** Name: Refractory International Ltd Location: Redwither Tower, Redwither Business Pk, Wrexham, Clwyd, LL13 9XT Classification: Refractory Materials & Supplies **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	465	-	338442 350138
355	**Contemporary Trade Directory Entries** Name: Tisane Location: 2f,Redwither Tower, Redwither Business Pk, Wrexham, Clwyd, LL13 9XT Classification: Seating Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	465	-	338442 350138
355	**Contemporary Trade Directory Entries** Name: Dee Pharmaceuticals Ltd Location: Redwither Tower, Redwither Business Pk, Wrexham, Clwyd, LL13 9XT Classification: Pharmaceutical Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (SE)	465	-	338442 350138
355	**Contemporary Trade Directory Entries** Name: K D Products Ltd Location: Ground Floor, Redwither Tower, Redwither Business Park, Wrexham, Clwyd, LL13 9XT Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	466	-	338442 350138
355	**Contemporary Trade Directory Entries** Name: Remagen Location: Second Floor, Redwither Tower, Redwither Business Park, Wrexham, Clwyd, LL13 9XT Classification: Seating Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	466	-	338442 350138
356	**Contemporary Trade Directory Entries** Name: Cytec Location: Unit 2, Abenbury Way, Wrexham Industrial Estate, Wrexham, LL13 9UZ Classification: Gum & Resin Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	476	-	337577 350489
356	**Contemporary Trade Directory Entries** Name: Solvay Location: Unit 2-4, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Gum & Resin Manufacturers & Distributors **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (W)	493	-	337569 350521
357	**Contemporary Trade Directory Entries** Name: Wockhardt Uk Ltd Location: Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9UF Classification: Pharmaceutical Manufacturers & Distributors **Status: Active** Positional Accuracy: Automatically positioned to the address	A18SE (N)	486	-	338162 350832
358	**Contemporary Trade Directory Entries** Name: Isringhausen Gb Ltd Location: Second Avenue, Redwither Business Park, Wrexham, Clwyd, LL13 9XQ Classification: Seating Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	502	-	338394 350014

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
359	**Contemporary Trade Directory Entries** Name: Wrexham General Engineering Ltd Location: Unit 226e, Elm Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UE Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	507	-	338527 350484
359	**Contemporary Trade Directory Entries** Name: Wrexham Rubber Fabricators Ltd Location: Unit 226B, Elm Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UE Classification: Rubber & Plastic Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	507	-	338527 350484
359	**Contemporary Trade Directory Entries** Name: Lm Engineering Services Ltd Location: 226a-D, Unit, Abbey Road, Redwither Business Park, Wrexham, Clwyd, LL13 9XU Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	507	-	338527 350484
360	**Contemporary Trade Directory Entries** Name: Clwyd Compounders Ltd Location: 1 Elm Point,Abbey Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UE Classification: Sealant Compounds & Applications **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	525	-	338560 350343
360	**Contemporary Trade Directory Entries** Name: Print Project Location: Unit 235B, Elm Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UE Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	533	-	338568 350374
360	**Contemporary Trade Directory Entries** Name: P C C Systems Ltd Location: Unit 235D, Elm Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UE Classification: Electronic Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	533	-	338568 350374
360	**Contemporary Trade Directory Entries** Name: P & G Joinery Location: Unit 242B, Elm Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UE Classification: Joinery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	544	-	338578 350326
360	**Contemporary Trade Directory Entries** Name: T Jones Location: Unit 242F, Elm Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UE Classification: Cabinet Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	544	-	338578 350326
361	**Contemporary Trade Directory Entries** Name: Robert Griffiths & Sons Location: Unit 227B, Elm Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UE Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	540	-	338568 350449
362	**Contemporary Trade Directory Entries** Name: J C B Transmissions Location: Unit 4, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Power Transmission Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NE (W)	555	-	337488 350452
363	**Contemporary Trade Directory Entries** Name: Dragon Hydraulics Location: Unit 245b, Elm Road, Redwither Business Park, WREXHAM, Clwyd, LL13 9UE Classification: Hydraulic Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	559	-	338588 350282

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
363	**Contemporary Trade Directory Entries** Name: Project Engineering Location: Unit 248,Elm Rd, Redwither Business Pk, Wrexham, Clwyd, LL13 9UE Classification: Engineers - General **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14SW (E)	574	-	338606 350310
364	**Contemporary Trade Directory Entries** Name: Wrexham Metal Finishing Location: Unit 250A, Redwither Business Pk, Wrexham, Clwyd, LL13 9UE Classification: Powder Coatings **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A14SW (E)	587	-	338606 350230
364	**Contemporary Trade Directory Entries** Name: Wrexham Metal Finishing Location: Unit 250a, Elm Road, Redwither Business Park, Wrexham, Clwyd, LL13 9UE Classification: Powder Coatings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	587	-	338606 350231
364	**Contemporary Trade Directory Entries** Name: Miac Ltd Location: Unit T2, Tower Close, Redwither Business Park, Wrexham, Clwyd, LL13 9WB Classification: Cable & Wire Equipment Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	623	-	338636 350202
365	**Contemporary Trade Directory Entries** Name: Ipsen Location: Unit 9, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9UF Classification: Chemists' & Pharmacists' Suppliers & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (W)	593	-	337447 350289
366	**Contemporary Trade Directory Entries** Name: Coolpoint Location: Bridge Road, Wrexham Industrial Estate, Wrexham, LL13 9PS Classification: Refrigeration Equipment - Commercial **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (SE)	604	-	338329 349836
367	**Contemporary Trade Directory Entries** Name: Delta Dailyfood (Uk) Ltd Location: Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	606	-	337480 350603
367	**Contemporary Trade Directory Entries** Name: Westminster Bedsteads Location: Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Bed & Mattress Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (NW)	606	-	337480 350603
368	**Contemporary Trade Directory Entries** Name: Proserve Ltd Location: Unit 12, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	626	-	337524 350003
368	**Contemporary Trade Directory Entries** Name: Tenax Uk Ltd Location: Unit 12, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Plastics - Injection Moulding **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	631	-	337510 350014
368	**Contemporary Trade Directory Entries** Name: Milner Engineering Services Ltd Location: Unit 12, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Classification: Precision Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	631	-	337510 350014

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
369	**Contemporary Trade Directory Entries** Name: Wrexham Metal Finishing Location: Unit T3, Tower Close, Redwither Business Park, Wrexham, Clwyd, LL13 9WB Classification: Powder Coatings **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	647	-	338649 350160
369	**Contemporary Trade Directory Entries** Name: Kaefer Location: Unit T3, Tower Close, Redwither Business Park, Wrexham, LL13 9WB Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (E)	649	-	338652 350163
369	**Contemporary Trade Directory Entries** Name: Mulberry Blinds Location: Unit T4, Tower Close, Redwither Business Park, Wrexham, LL13 9WB Classification: Blinds, Awnings & Canopies **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	658	-	338655 350142
370	**Contemporary Trade Directory Entries** Name: Orchard Pigs Location: Bryn Business Centre, Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	647	-	338567 350732
371	**Contemporary Trade Directory Entries** Name: Duracell Location: Unit 11, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Battery Manufacturers & Supplies **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (W)	659	-	337425 350118
371	**Contemporary Trade Directory Entries** Name: Tyre Suppliers Location: Unit 6, Ash Road North, Wrexham, LL13 9JT Classification: Tyre Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	670	-	337424 350090
372	**Contemporary Trade Directory Entries** Name: Radioactive Communications Ltd Location: Unit T6, Tower Close, Redwither Business Park, Wrexham, Clwyd, LL13 9WB Classification: Radio Communication Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	673	-	338646 350083
373	**Contemporary Trade Directory Entries** Name: Oakhouse Foods Location: Unit 32, Abenbury Way, Wrexham Industrial Estate, Wrexham, LL13 9UZ Classification: Frozen Food Processors & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NE (W)	677	-	337365 350454
373	**Contemporary Trade Directory Entries** Name: Cymru Lifting Gear Location: Unit 31, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Lifting Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	687	-	337356 350458
373	**Contemporary Trade Directory Entries** Name: Total Engineering Solutions (Uk) Ltd Location: Unit 31, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	687	-	337356 350458
374	**Contemporary Trade Directory Entries** Name: Stadex Industries Ltd Location: Dutton Rd, Redwither Business Pk, Wrexham, Clwyd, LL13 9UL Classification: Gum & Resin Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NE (SW)	680	-	337686 349780

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
375	**Contemporary Trade Directory Entries** Name: Rawson Digital Location: UNIT 4 ROOM 1, BRIDGE BUSINESS CENTRE, ASH ROAD SOUTH, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9UG Classification: Copying & Duplicating Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	681	-	338234 349713
375	**Contemporary Trade Directory Entries** Name: Duct Hygiene Location: Unit 4 Office 3, Bridge Business Centre, Ash Road South, Wrexham, LL13 9UG Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	681	-	338234 349713
376	**Contemporary Trade Directory Entries** Name: Unimag Location: Unit 6, Pacific Park, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9PN Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	685	-	338480 349842
376	**Contemporary Trade Directory Entries** Name: Unimaq Location: UNIT 6, PACIFIC PARK, BRIDGE ROAD NORTH, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9PN Classification: Bottling Machinery & Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	689	-	338485 349842
377	**Contemporary Trade Directory Entries** Name: Pauls Equipment Services Ltd Location: Bryn Business Centre, Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT Classification: Garage Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	685	-	338616 350726
377	**Contemporary Trade Directory Entries** Name: Courtaulds Lingerie Location: Bryn La,Wrexham Indust Est, Wrexham, Clwyd, LL13 9UP Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A19SW (NE)	719	-	338636 350758
377	**Contemporary Trade Directory Entries** Name: A M Industrial Supplies Location: Unit J2, Bryn Business Centre, Bryn Lane, Wrexham, LL13 9UT Classification: Engineering Materials **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	725	-	338663 350726
377	**Contemporary Trade Directory Entries** Name: Wellpecs Ltd Location: Unit H1, Bryn Business Centre, Bryn Lane, Wrexham, LL13 9UT Classification: Electrical Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	741	-	338663 350755
377	**Contemporary Trade Directory Entries** Name: Aspull Engineering Location: Kellogs Site Bryn Business Centre,Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Classification: Engineers - General **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	750	-	338665 350769
377	**Contemporary Trade Directory Entries** Name: Air Covers Location: BRYN BUSINESS CENTRE, BRYN LANE, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9UT Classification: Aviation Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SW (NE)	750	-	338665 350769
378	**Contemporary Trade Directory Entries** Name: P J Garage Ltd Location: Unit 8, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	688	-	337427 350042

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
378	**Contemporary Trade Directory Entries** Name: Cuski International Location: Unit 8, Ash Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JT Classification: Toys, Games & Sporting Goods - Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A12SE (SW)	688	-	337429 350040
379	**Contemporary Trade Directory Entries** Name: Ardagh Group Location: Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9PS Classification: Can Manufacturers **Status:** **Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	689	-	337901 349688
380	**Contemporary Trade Directory Entries** Name: Quadraco Contracts Ltd Location: Unit 25, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Joinery Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	696	-	337340 350342
381	**Contemporary Trade Directory Entries** Name: Forster International Ltd Location: Unit 13, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Engineers - General **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	698	-	337496 349922
381	**Contemporary Trade Directory Entries** Name: Vannplastic Location: Unit 13, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Plastics - Extrusion **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	698	-	337496 349922
381	**Contemporary Trade Directory Entries** Name: Ecodek Location: Unit 13, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	698	-	337496 349922
382	**Contemporary Trade Directory Entries** Name: Tower Engineering Ltd Location: Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH Classification: Engineers - General **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	699	-	337602 349815
383	**Contemporary Trade Directory Entries** Name: Owen Tatton Location: Unit 22, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Building Block Manufacturers & Distributors **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	713	-	337327 350291
384	**Contemporary Trade Directory Entries** Name: J & B Sewing Machine Co Ltd Location: Unit 14, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Sewing Machines - Industrial **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	729	-	337533 349836
384	**Contemporary Trade Directory Entries** Name: Village Bakery Location: Unit 14, Abenbury Way, Wrexham Industrial Estate, Wrexham, LL13 9UZ Classification: Manufacturers **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	734	-	337528 349834
385	**Contemporary Trade Directory Entries** Name: Recovered Plastics Location: Abbey Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RF Classification: Recycling Centres **Status:** **Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	742	-	338576 349856

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
386	**Contemporary Trade Directory Entries** Name: Advanced Surface Polymers Location: Unit 30, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Plastic Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	753	-	337286 350428
387	**Contemporary Trade Directory Entries** Name: Pann Krisp Ltd Location: Unit 37, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	754	-	337322 350122
387	**Contemporary Trade Directory Entries** Name: Mesh 4 Location: UNIT 36 TO 37, ABENBURY WAY, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9UZ Classification: Agricultural Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	754	-	337321 350122
387	**Contemporary Trade Directory Entries** Name: Topwood Ltd Location: Unit 36, Abenbury Way, Wrexham Industrial Estate, Wrexham, LL13 9UZ Classification: Shredding Equipment & Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	765	-	337309 350122
388	**Contemporary Trade Directory Entries** Name: A & B Air Systems Ltd Location: Unit 21, Abenbury Way, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UZ Classification: Air Compressors **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (SW)	756	-	337349 350048
388	**Contemporary Trade Directory Entries** Name: N & S Car Sales Location: Unit 20, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (SW)	767	-	337337 350049
388	**Contemporary Trade Directory Entries** Name: Ash Tyres Location: Unit 19, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Tyre Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (SW)	785	-	337320 350043
389	**Contemporary Trade Directory Entries** Name: Almetron Ltd Location: Unit 24, Abenbury Way, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9UZ Classification: Chemicals - Distributors & Wholesalers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12SW (W)	767	-	337269 350354
390	**Contemporary Trade Directory Entries** Name: Up Design & Print Location: Unit 18, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Printers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A7NW (SW)	781	-	337348 349994
391	**Contemporary Trade Directory Entries** Name: Metal Finishings (North Wales) Ltd Location: Unit 23, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Powder Coatings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	784	-	337255 350295

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
391	**Contemporary Trade Directory Entries** Name: Metal Finishing Of Wrexham Ltd Location: Unit 23, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Powder Coatings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	784	-	337255 350295
391	**Contemporary Trade Directory Entries** Name: Wrexham Powder Coating Location: Unit 23, Abenbury Way, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UZ Classification: Powder Coatings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	784	-	337255 350295
392	**Contemporary Trade Directory Entries** Name: Meridian Foods Location: Unit 101 The Warehouse,Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14NE (E)	798	-	338821 350498
392	**Contemporary Trade Directory Entries** Name: Kelloggs Location: Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Classification: Food Products - Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14NE (E)	798	-	338821 350498
392	**Contemporary Trade Directory Entries** Name: Owens Corning Fiberglas (G B) Ltd Location: Wrexham Plant, Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9JU Classification: Glass Fibre Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	798	-	338821 350498
392	**Contemporary Trade Directory Entries** Name: Town & Country Heating Supply Co Location: Bryn Lane, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UT Classification: Oil Fuel Distributors **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14NE (E)	798	-	338821 350498
393	**Contemporary Trade Directory Entries** Name: Tritech Location: BRIDGE ROAD FACTORY, BRIDGE ROAD NORTH, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9PS Classification: Die-Casting Equipment & Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	803	-	338234 349586
393	**Contemporary Trade Directory Entries** Name: Tritech Group Ltd Location: Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9PS Classification: Precision Engineers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	804	-	338242 349587
394	**Contemporary Trade Directory Entries** Name: Nijmidon Location: Coed Aben Rd, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UH Classification: Wallpapers & Wall Coverings **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SW (SW)	807	-	337724 349619
395	**Contemporary Trade Directory Entries** Name: Tradebe Healthcare Location: Marlborough Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RJ Classification: Medical Waste Disposal **Status: Active** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	821	-	338550 349724
396	**Contemporary Trade Directory Entries** Name: Broadway Leisure Location: UNIT 2A, COED ABEN ROAD, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9UH Classification: Caravans - Servicing & Repairs **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	821	-	337535 349713

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
396	**Contemporary Trade Directory Entries** Name: Minuteman Press Location: MILLWOOD HOUSE, COED ABEN ROAD, WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9UH Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	835	-	337563 349675
396	**Contemporary Trade Directory Entries** Name: Business Print & Design Location: Millwood House, Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	835	-	337563 349675
397	**Contemporary Trade Directory Entries** Name: Nutrafeed Ltd Location: Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9PS Classification: Reclaiming - Waste Products **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	838	-	338185 349539
398	**Contemporary Trade Directory Entries** Name: App-Chem Location: App-Chem House, Hugmore Lane, Llan-y-Pwll, Wrexham, Clwyd, LL13 9YE Classification: Chemicals - Distributors & Wholesalers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	852	-	337979 351213
399	**Contemporary Trade Directory Entries** Name: Zaviz International Ltd Location: Coed Aben Road, Wrexham Industrial Estate, Wrexham, LL13 9UH Classification: Car Engine Tuning & Diagnostic Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	859	-	337570 349641
399	**Contemporary Trade Directory Entries** Name: Roil Foods Ltd Location: Unit 52, Clywedog Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9XN Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	899	-	337544 349611
400	**Contemporary Trade Directory Entries** Name: B D Automotive Location: Unit 101, Coed Aben Road, Wrexham Industrial Estate, Wrexham, LL13 9UH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	862	-	337813 349531
401	**Contemporary Trade Directory Entries** Name: Sita Uk Location: Marlborough Rd, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RJ Classification: Medical Waste Disposal **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	865	-	338481 349622
402	**Contemporary Trade Directory Entries** Name: Commercial & Industrial Gauges Ltd Location: Coed Aben Road, Wrexham Industrial Estate, Wrexham, LL13 9UH Classification: Gauge Manufacturers & Distributors **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	871	-	337684 349566
402	**Contemporary Trade Directory Entries** Name: Commercial & Industrial Handling Ltd Location: Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH Classification: Conveyors & Conveyor Belts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	872	-	337683 349566
403	**Contemporary Trade Directory Entries** Name: Biffa Waste Services Ltd Location: Abbey Road South, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RF Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	877	-	338646 349734

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
403	**Contemporary Trade Directory Entries** Name: Williams Edm Location: Abbey Rd, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RF Classification: Tool Design, Manufacturers & Makers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9NW (SE)	905	-	338644 349694
404	**Contemporary Trade Directory Entries** Name: Barrons Location: Dunster Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RE Classification: Caravan Dealers & Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	880	-	338424 349574
404	**Contemporary Trade Directory Entries** Name: Williams Location: Dunster Road, Wrexham Industrial Estate, Wrexham, LL13 9RE Classification: Vehicle Inspection Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	884	-	338426 349571
405	**Contemporary Trade Directory Entries** Name: Rascals Petfood Centre Location: Unit 24, The Bridgeway Centre, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9QS Classification: Pet Foods & Animal Feeds **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	882	-	337867 349498
405	**Contemporary Trade Directory Entries** Name: Help Save Our Planet Recycled Goods Location: Unit 25,The Bridgeway Centre,Coed Aben Rd, Wrexham Ind Est, Wrexham, Clwyd, LL13 9QS Classification: Recycling Centres **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	895	-	337860 349486
405	**Contemporary Trade Directory Entries** Name: Try Thai Shop Location: Unit 27-28, The Bridgeway Centre, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9QS Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	898	-	337889 349478
405	**Contemporary Trade Directory Entries** Name: Intawood Location: Unit 21, The Bridgeway Centre, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9QS Classification: Joinery Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	918	-	337856 349463
405	**Contemporary Trade Directory Entries** Name: Gallion Ltd Location: Unit 30, The Bridgeway Centre, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9QS Classification: Clothing & Fabrics - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	922	-	337864 349458
406	**Contemporary Trade Directory Entries** Name: S M Shepherd C V R Location: Unit R2, Redwither Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RD Classification: Commercial Vehicle Servicing, Repairs, Parts & Accessories **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SW (S)	883	-	338374 349548
407	**Contemporary Trade Directory Entries** Name: Transport & Storage Services Ltd Location: Unit 108,Abbey Rd, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RF Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	884	-	338677 349756
407	**Contemporary Trade Directory Entries** Name: Scrap My Car Now For Money Wrexham Kws Location: Abbey Road, Wrexham, Clwyd, LL13 9RF Classification: Car Breakers & Dismantlers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9NW (SE)	885	-	338677 349754

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
407	**Contemporary Trade Directory Entries** Name: Copal Casting Ltd Location: Abbey Rd,Wrexham Indust Est, Wrexham, Clwyd, LL13 9RF Classification: Precision Engineers **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A9NW (SE)	885	-	338676 349754
407	**Contemporary Trade Directory Entries** Name: D H D Engineering Services Ltd Location: Abbey Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RF Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	885	-	338677 349754
408	**Contemporary Trade Directory Entries** Name: Phoenix Powder Coating Location: Unit 13 Ridley Wood Industrial Complex,Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Classification: Powder Coatings **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	885	-	338841 350730
408	**Contemporary Trade Directory Entries** Name: Phonenix Powder Coating Location: Unit 13, Ridley Wood Industrial Complex, Bryn Lane, Wrexham, LL13 9UT Classification: Powder Coatings **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	885	-	338841 350730
409	**Contemporary Trade Directory Entries** Name: Entrec Location: Redwither Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RD Classification: Scrap Metal Merchants **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	887	-	338289 349513
410	**Contemporary Trade Directory Entries** Name: Premier Press Location: Ridley Wood Industrial Complex, Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Classification: Printers **Status: Inactive** Positional Accuracy: Automatically positioned in the proximity of the address	A14SE (E)	890	-	338875 350068
411	**Contemporary Trade Directory Entries** Name: Automation Support Services Location: Dunster rd, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RE Classification: Automation Systems & Equipment **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A9SW (SE)	899	-	338495 349591
411	**Contemporary Trade Directory Entries** Name: R C Motors Wrexham Ltd Location: Redwither Road, Wrexham Industrial Estate, WREXHAM, Clwyd, LL13 9RD Classification: Car Breakdown & Recovery Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	946	-	338512 349547
412	**Contemporary Trade Directory Entries** Name: Diamond Domestics Location: Unit 104, Coed Aben Road, Wrexham Industrial Estate, Wrexham, LL13 9UH Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	901	-	337701 349527
412	**Contemporary Trade Directory Entries** Name: Barlow World Handling Ltd Location: Unit 103-104, Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH Classification: Materials Handling Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	902	-	337704 349525
412	**Contemporary Trade Directory Entries** Name: A P T Coatings Ltd Location: Unit 106, Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH Classification: Paint Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	916	-	337690 349515

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
412	**Contemporary Trade Directory Entries** Name: Sonira Foods Location: Unit 66, Clywedog Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9XN Classification: Food Products - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	922	-	337654 349525
413	**Contemporary Trade Directory Entries** Name: B D Performance Location: Unit 102, Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH Classification: Garage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	903	-	337761 349504
414	**Contemporary Trade Directory Entries** Name: Nutrafeed Location: Bridge Rd, Wrexham Ind Est, Wrexham, Clwyd, LL13 9PS Classification: Pet Foods & Animal Feeds **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A8SW (S)	909	-	337935 349460
415	**Contemporary Trade Directory Entries** Name: Envirochem Technologists Ltd Location: Hugmore Lane, Llan-y-Pwll, Wrexham, Clwyd, LL13 9YE Classification: Scientific Apparatus & Instruments - Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18NW (N)	911	-	337961 351271
416	**Contemporary Trade Directory Entries** Name: Electromec Ltd Location: Unit 5, Ridley Wood Industrial Complex, Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT Classification: Electrical Engineers **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	919	-	338844 350799
416	**Contemporary Trade Directory Entries** Name: Duct Hygiene Location: Bryn La, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UT Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A19SE (NE)	936	-	338840 350840
416	**Contemporary Trade Directory Entries** Name: Third Party Maintenance Location: Bryn La, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UT Classification: Office Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A19SE (NE)	949	-	338858 350836
417	**Contemporary Trade Directory Entries** Name: Auto Rallye Prep Location: Unit 20, The Bridgeway Centre, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9QS Classification: Car Engine Tuning & Diagnostic Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	926	-	337812 349465
418	**Contemporary Trade Directory Entries** Name: P E S Location: Bryn Lane, Wrexham Ind Est, Wrexham, Clwyd, LL13 9UT Classification: Garage Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14NE (E)	933	-	338964 350448
419	**Contemporary Trade Directory Entries** Name: H T C Management Services Ltd Location: Redwither Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RD Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	937	-	338110 349430
419	**Contemporary Trade Directory Entries** Name: Johnny'S Garage Ltd Location: WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9RD Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	937	-	338110 349430

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
419	**Contemporary Trade Directory Entries** Name: D & G Automotive Ltd Location: WREXHAM INDUSTRIAL ESTATE, WREXHAM, LL13 9RD Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	937	-	338110 349430
420	**Contemporary Trade Directory Entries** Name: Riello U P S Ltd Location: Unit 50, Clywedog Road North, Wrexham Industrial Estate, Wrexham, LL13 9XN Classification: Windmills & Wind Power Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	939	-	337367 349704
420	**Contemporary Trade Directory Entries** Name: Riello U P S Ltd Location: Unit 50, Clywedog Road North, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9XN Classification: Generators - Sales & Service **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	939	-	337367 349704
421	**Contemporary Trade Directory Entries** Name: A C F Joinery Location: Redwither Rd, Wrexham Ind Est, Wrexham, Clwyd, LL13 9RD Classification: Joinery Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A9SW (SE)	949	-	338425 349498
421	**Contemporary Trade Directory Entries** Name: Brake Engineering Location: Redwither Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RD Classification: Car Component Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	982	-	338413 349458
421	**Contemporary Trade Directory Entries** Name: Z F Services Location: Redwither Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RD Classification: Brake & Clutch Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	982	-	338413 349458
421	**Contemporary Trade Directory Entries** Name: Brake Engineering Location: Redwither Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9RD Classification: Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	982	-	338413 349458
422	**Contemporary Trade Directory Entries** Name: Grafters Ltd Location: Unit 6, Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Classification: Chemical Recycling & Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	950	-	338907 350741
422	**Contemporary Trade Directory Entries** Name: Orchid Laundry & Dry Cleaning Services Location: Unit 6, Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT Classification: Dry Cleaners **Status: Active** Positional Accuracy: Automatically positioned to the address	A19SE (NE)	954	-	338910 350742
423	**Contemporary Trade Directory Entries** Name: Georgia Pacific Location: Bryn La,Wrexham Indust Est, Wrexham, Clwyd, LL13 9UT Classification: Distribution Services **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A14NE (E)	953	-	338965 350570
424	**Contemporary Trade Directory Entries** Name: Erddig Brewery Location: Unit 56, Clywedog Road North, Wrexham Industrial Estate, Wrexham, LL13 9XN Classification: Brewers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (SW)	978	-	337551 349514

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
425	**Contemporary Trade Directory Entries** Name: G Evans Holding Co Ltd Location: Unit 107, Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH Classification: Engineers - General **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	981	-	337680 349449
425	**Contemporary Trade Directory Entries** Name: Dhd Part Of G Evans Holding Co Ltd Location: Unit 107, Coed Aben Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UH Classification: Engineering Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A7SE (S)	981	-	337680 349449
425	**Contemporary Trade Directory Entries** Name: D H D Location: Unit 107, Coed Aben Road, Wrexham Industrial Estate, Wrexham, LL13 9UH Classification: Machine Shops **Status: Active** Positional Accuracy: Automatically positioned to the address	A7SE (S)	982	-	337679 349449
426	**Contemporary Trade Directory Entries** Name: Hi-Mark Automotive Ltd Location: Unit A, Spectrum Business Park, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9QA Classification: Plastics - Injection Moulding **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	986	-	337979 349380
427	**Contemporary Trade Directory Entries** Name: Cpl Petroleum Location: Wrexham Depot, Bryn Lane, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9UT Classification: Oil Fuel Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	986	-	338894 349880
428	**Contemporary Trade Directory Entries** Name: Silverlining Workshops Location: Unit 12, The Bridgeway Centre, Bridge Road, Wrexham Industrial Estate, Wrexham, Clwyd, LL13 9QS Classification: Cabinet Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	989	-	337731 349423
429	**Fuel Station Entries** Name: Certas Energy Wrexham Hgv Location: Bryn Lane , Wrexham Industrial Estate, Wrexham, Wrexham, LL13 9UT Brand: Certas Energy Premises Type: Petrol Station **Status: Non-Retail** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	986	-	338894 349880
430	**Points of Interest - Commercial Services** Name: Vernons of Wrexham Services Ltd Location: Steve Vernon Transport Wrexham Enterprise Park, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	146	8	337916 350447
431	**Points of Interest - Commercial Services** Name: Steve Vernon Transport Location: Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	147	8	337918 350451
431	**Points of Interest - Commercial Services** Name: D J L Haulage Location: Unit 411, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9UF Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	206	8	337926 350537
432	**Points of Interest - Commercial Services** Name: Proserve Industrial Ltd Location: Unit 2, Ash Road South, Wrexham Industrial Estate, Wrexham, LL13 9UG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13SE (SE)	168	8	338101 350209

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
432	**Points of Interest - Commercial Services** Name: Advanced Vehicle Servicing Location: Unit 4 5 and 6, Ash Road South, Wrexham Industrial Estate, Wrexham, LL13 9UG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	246	8	338151 350147
433	**Points of Interest - Commercial Services** Name: Demon Tweeks Modifying Location: Ash Road South, Wrexham Industrial Estate, Wrexham, LL13 9UG Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13SE (SE)	339	8	338179 350057
434	**Points of Interest - Commercial Services** Name: Clwyd Transport Services Ltd Location: Unit 7 at Clwyd House Blackwood Business Park, Ash Road South, Wrexham Industrial Estate, Wrexham, LL13 9UG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13SW (SW)	366	8	337763 350119
435	**Points of Interest - Commercial Services** Name: Wizards of Detailing Location: Liam House, Abbey Road North, Wrexham, LL13 9RX Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13NE (NE)	390	8	338371 350561
435	**Points of Interest - Commercial Services** Name: Auto Tec Location: Shannon House, Abbey Road North, Wrexham Industrial Estate, Wrexham, LL13 9RX Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A14NW (NE)	398	8	338377 350567
435	**Points of Interest - Commercial Services** Name: C L B Valeting & Detailing Ltd Location: Lewis House, Abbey Road North, Wrexham Industrial Estate, Wrexham, LL13 9RX Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NW (NE)	444	8	338403 350612
436	**Points of Interest - Commercial Services** Name: Ningbo Distributors Location: Building 4, First Avenue, Redwither Business Park, Wrexham Industrial Estate, Wrexham, LL13 9XP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (E)	391	8	338399 350221
436	**Points of Interest - Commercial Services** Name: McCarthy Haulage Ltd Location: Building 4, First Avenue, Redwither Business Park, Wrexham, LL13 9XP Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SW (E)	396	8	338404 350221
437	**Points of Interest - Commercial Services** Name: George L Williams Location: B K House, Ash Road South, Wrexham Industrial Estate, Wrexham, LL13 9UG Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SE (SW)	424	8	337655 350179
438	**Points of Interest - Commercial Services** Name: Proserve Ltd Location: Unit 12, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A7NE (SW)	627	8	337523 350002
439	**Points of Interest - Commercial Services** Name: P J Garage Ltd Location: Unit 8, Ash Road North, Wrexham Industrial Estate, Wrexham, LL13 9JT Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SE (SW)	689	8	337426 350042

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
440	**Points of Interest - Commercial Services** Name: Transport & Storage Services Location: Unit 22, Abenbury Way, Wrexham Industrial Estate, Wrexham, LL13 9UZ Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A12SW (W)	713	8	337327 350291
441	**Points of Interest - Commercial Services** Name: B D Performance Location: Unit 19, Abenbury Way, Wrexham Industrial Estate, Wrexham, LL13 9UZ Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A12SW (SW)	785	8	337320 350043
442	**Points of Interest - Commercial Services** Name: Tradebe Healthcare Location: Marlborough Road, Wrexham Industrial Estate, Wrexham, LL13 9RJ Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A9NW (SE)	821	8	338550 349724
443	**Points of Interest - Commercial Services** Name: Nutrafeed Location: Bridge Road, Wrexham Industrial Estate, Wrexham, LL13 9PS Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8SE (S)	838	8	338185 349539
444	**Points of Interest - Commercial Services** Name: B D Automotive Location: Unit 101, Coed Aben Road, Wrexham Industrial Estate, Wrexham, LL13 9UH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SW (S)	857	8	337815 349536
445	**Points of Interest - Commercial Services** Name: Zaviz International Ltd Location: Empire Scaffolding, Coed Aben Road, Wrexham Industrial Estate, Wrexham, LL13 9UH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7SE (SW)	860	8	337570 349640
446	**Points of Interest - Commercial Services** Name: Entrec Location: Redwither Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A8SE (S)	887	8	338288 349513
447	**Points of Interest - Commercial Services** Name: S M Shepherd C V R Location: Unit 1 and 2, Dunster Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A9SW (SE)	914	8	338492 349572
448	**Points of Interest - Commercial Services** Name: Johnny's Garage Ltd Location: Unit 2a Redwither Works, Redwither Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	937	8	338110 349430
448	**Points of Interest - Commercial Services** Name: D & G Automotive Ltd Location: Unit 1 Redwither Works, Redwither Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8SE (S)	937	8	338110 349430
448	**Points of Interest - Commercial Services** Name: North Western Insulations Ltd Location: Unit 1, Redwither Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A8SE (S)	967	8	338155 349404

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
449	**Points of Interest - Commercial Services** Name: Grafters Ltd Location: Store 6, Bryn Lane, Ridley Wood, Wrexham, LL13 9UT Category: Recycling Services Class Code: Recycling, Reclamation and Disposal Positional Accuracy: Positioned to address or location	A19SE (NE)	953	8	338910 350741
450	**Points of Interest - Manufacturing and Production** Name: Tanks Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	141	8	337907 350421
451	**Points of Interest - Manufacturing and Production** Name: Enterprise Park Location: LL13 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A13NW (W)	319	8	337717 350377
452	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NE (N)	320	8	338070 350681
453	**Points of Interest - Manufacturing and Production** Name: Factory Location: LL13 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	365	8	337733 350566
454	**Points of Interest - Manufacturing and Production** Name: Business Park Location: LL13 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	400	8	337701 350145
455	**Points of Interest - Manufacturing and Production** Name: Redwither Business Centre Location: Redwither Business Park, Wrexham, LL13 9XR Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A14SW (E)	407	8	338441 350342
456	**Points of Interest - Manufacturing and Production** Name: Redwither Tower Location: Redwither Business Park, Wrexham, LL13 9XT Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to address or location	A14SW (SE)	465	8	338442 350138
457	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A17SE (NW)	535	8	337672 350755
458	**Points of Interest - Manufacturing and Production** Name: Ystad Ddiwydiannol Wrecsam (Wrexham Industrial Estate) Location: LL13 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	599	8	337657 349900
459	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14NW (E)	610	8	338641 350429
459	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14NW (E)	614	8	338646 350421

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
459	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14NW (E)	616	8	338649 350412
459	**Points of Interest - Manufacturing and Production** Name: Tanks Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14NW (E)	632	8	338666 350403
460	**Points of Interest - Manufacturing and Production** Name: Factory Location: LL13 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	630	8	337520 350001
460	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	695	8	337455 349982
461	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8NW (SW)	637	8	337781 349780
462	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NW (SE)	658	8	338483 349882
463	**Points of Interest - Manufacturing and Production** Name: Bryn Business Centre Location: LL13 Category: Industrial Features Class Code: Business Parks and Industrial Estates Positional Accuracy: Positioned to an adjacent address or location	A19SW (NE)	671	8	338554 350788
464	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14SE (E)	709	8	338743 350325
464	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14SE (E)	710	8	338743 350315
464	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14SE (E)	717	8	338749 350300
464	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A14SE (E)	720	8	338754 350324
464	**Points of Interest - Manufacturing and Production** Name: Tanks Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	733	8	338766 350314

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
465	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	738	8	337992 349627
466	**Points of Interest - Manufacturing and Production** Name: Factory Location: LL13 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	783	8	338798 350537
467	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	786	8	338403 349669
468	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A19SE (NE)	813	8	338746 350758
468	**Points of Interest - Manufacturing and Production** Name: Tanks Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A19SE (NE)	814	8	338755 350742
468	**Points of Interest - Manufacturing and Production** Name: Tank Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A19SE (NE)	821	8	338749 350767
469	**Points of Interest - Manufacturing and Production** Name: Solar Panels Location: LL13 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	815	8	338790 350057
470	**Points of Interest - Manufacturing and Production** Name: Factory Location: LL13 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A8SW (S)	930	8	337702 349495
470	**Points of Interest - Manufacturing and Production** Name: Factory Location: LL13 Category: Industrial Features Class Code: Unspecified Works Or Factories Positional Accuracy: Positioned to an adjacent address or location	A7SE (S)	981	8	337667 349454
471	**Points of Interest - Manufacturing and Production** Name: Riello U P S Ltd Location: Unit 50, Clywedog Road North, Wrexham Industrial Estate, Wrexham, LL13 9XN Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to address or location	A7NE (SW)	939	8	337367 349704
472	**Points of Interest - Manufacturing and Production** Name: Tanks Location: LL13 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9NE (SE)	997	8	338865 349811
473	**Points of Interest - Public Infrastructure** Name: Recycling Centre Location: LL13 Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to an adjacent address or location	A14SW (SE)	716	8	338668 350028

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
474	**Points of Interest - Public Infrastructure** Name: Recovered Plastics Location: Abbey Road, Wrexham Industrial Estate, Wrexham, LL13 9RF Category: Infrastructure and Facilities Class Code: Recycling Centres Positional Accuracy: Positioned to address or location	A9NW (SE)	742	8	338576 349856
475	**Points of Interest - Public Infrastructure** Name: Amenity Tip Location: LL13 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A14SE (E)	809	8	338805 350115
476	**Points of Interest - Public Infrastructure** Name: Tradebe Location: Marlborough Road, Wrexham Industrial Estate, Wrexham, LL13 9RJ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A9NW (SE)	821	8	338550 349724
477	**Points of Interest - Public Infrastructure** Name: Water Clean Ltd Location: Unit 4, Marlborough Road, Wrexham, LL13 9RJ Category: Water Class Code: Rivers and Canal Organisations and Infrastructure Positional Accuracy: Positioned to address or location	A9SW (SE)	862	8	338496 349635
478	**Points of Interest - Public Infrastructure** Name: Entrec Ltd Location: Redwither Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A8SE (S)	887	8	338289 349513
478	**Points of Interest - Public Infrastructure** Name: Entrec Location: Redwither Road, Wrexham Industrial Estate, Wrexham, LL13 9RD Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A8SE (S)	887	8	338289 349513
478	**Points of Interest - Public Infrastructure** Name: Waste Processing Location: LL13 Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to an adjacent address or location	A8SE (S)	980	8	338285 349416
479	**Points of Interest - Public Infrastructure** Name: Grafters Ltd Location: Unit 6, Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A19SE (NE)	911	8	338845 350780
479	**Points of Interest - Public Infrastructure** Name: Grafters Ltd Location: Unit 6, Bryn Lane, Wrexham Industrial Estate, Wrexham, LL13 9UT Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A19SE (NE)	950	8	338907 350741

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
480	**Ancient Woodland** Name: Not Supplied Reference: 37166 Area(m²): 1024.3 Type: Restored Ancient Woodland Site	A13SW (SW)	359	2	337796 350097
481	**Ancient Woodland** Name: Not Supplied Reference: 30640 Area(m²): 22755.66 Type: Restored Ancient Woodland Site	A13SW (SW)	359	2	337797 350095

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Chester City Council (now part of Cheshire West and Chester Council) - Environmental Health Department	August 2008	
Natural Resources Wales	November 2023	Annually
Cheshire West and Chester Council - Environmental Health Department	October 2017	Annually
Wrexham County Borough Council - Public Protection Department	October 2017	Annually
Discharge Consents		
Environment Agency - Welsh Region	August 2014	Quarterly
Natural Resources Wales	August 2023	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - North West Region	March 2013	
Environment Agency - Welsh Region	March 2013	
Integrated Pollution Controls		
Environment Agency - North West Region	January 2009	
Environment Agency - Welsh Region	January 2009	
Integrated Pollution Prevention And Control		
Natural Resources Wales	August 2023	Quarterly
Environment Agency - Welsh Region	January 2021	Quarterly
Environment Agency - North West Region	January 2023	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Wrexham County Borough Council - Environmental Health Department	April 2014	Variable
Chester City Council (now part of Cheshire West and Chester Council) - Environmental Health Department	December 2008	Not Applicable
Cheshire West and Chester Council - Environmental Health Department	July 2015	Variable
Local Authority Pollution Prevention and Controls		
Wrexham County Borough Council - Environmental Health Department	April 2014	Annual Rolling Update
Chester City Council (now part of Cheshire West and Chester Council) - Environmental Health Department	December 2008	Not Applicable
Cheshire West and Chester Council - Environmental Health Department	July 2015	Annually
Local Authority Pollution Prevention and Control Enforcements		
Wrexham County Borough Council - Environmental Health Department	April 2014	Variable
Chester City Council (now part of Cheshire West and Chester Council) - Environmental Health Department	December 2008	Not Applicable
Cheshire West and Chester Council - Environmental Health Department	July 2015	Variable
Nearest Surface Water Feature		
Ordnance Survey	November 2023	
Pollution Incidents to Controlled Waters		
Environment Agency - Welsh Region	December 1998	
Prosecutions Relating to Authorised Processes		
Environment Agency - North West Region	July 2015	
Environment Agency - Welsh Region	July 2015	
Natural Resources Wales	July 2015	
Prosecutions Relating to Controlled Waters		
Environment Agency - North West Region	March 2013	
Environment Agency - Welsh Region	March 2013	
Natural Resources Wales	March 2013	
Registered Radioactive Substances		
Natural Resources Wales	January 2015	
Environment Agency - North West Region	June 2016	As notified
Environment Agency - Welsh Region	June 2016	As notified
Substantiated Pollution Incident Register		
Natural Resources Wales	August 2023	Quarterly
Environment Agency Wales - North Area	January 2021	Quarterly
Environment Agency - North West Region - South Area	October 2023	Quarterly

Data Currency

Agency & Hydrological	Version	Update Cycle
Water Abstractions		
Natural Resources Wales	June 2023	Quarterly
Environment Agency - Welsh Region	October 2023	Quarterly
Water Industry Act Referrals		
Environment Agency - North West Region	October 2017	
Environment Agency - Welsh Region	October 2017	
Natural Resources Wales	October 2022	
Groundwater Vulnerability Map		
Natural Resources Wales	June 2018	As notified
Bedrock Aquifer Designations		
Natural Resources Wales	January 2018	As notified
Superficial Aquifer Designations		
Natural Resources Wales	January 2018	As notified
Source Protection Zones		
Natural Resources Wales	July 2022	Annual Rolling Update
Environment Agency - Head Office	September 2022	Bi-Annually
Extreme Flooding from Rivers or Sea without Defences		
Natural Resources Wales	September 2020	
Flooding from Rivers or Sea without Defences		
Natural Resources Wales	September 2020	
Areas Benefiting from Flood Defences		
Natural Resources Wales	November 2019	Quarterly
Flood Water Storage Areas		
Natural Resources Wales	August 2019	Quarterly
Flood Defences		
Natural Resources Wales	November 2019	Quarterly
OS Water Network Lines		
Ordnance Survey	October 2023	Quarterly
Surface Water 1 in 30 year Flood Extent		
Natural Resources Wales	May 2018	Annually
Surface Water 1 in 100 year Flood Extent		
Natural Resources Wales	May 2018	Annually
Surface Water 1 in 1000 year Flood Extent		
Natural Resources Wales	May 2018	Annually
Surface Water Suitability		
Natural Resources Wales	February 2016	Annually
BGS Groundwater Flooding Susceptibility		
British Geological Survey - National Geoscience Information Service	May 2013	As notified

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	November 2002	As notified
Historical Landfill Sites		
Natural Resources Wales	March 2023	As notified
Integrated Pollution Control Registered Waste Sites		
Environment Agency - North West Region	January 2009	Not Applicable
Environment Agency - Welsh Region	January 2009	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency Wales - North Area	January 2023	Quarterly
Environment Agency - North West Region - South Area	July 2023	Quarterly
Natural Resources Wales	October 2021	Quarterly
Licensed Waste Management Facilities (Locations)		
Natural Resources Wales	August 2023	Quarterly
Environment Agency - North West Region - South Area	January 2023	Quarterly
Environment Agency Wales - North Area	July 2021	Quarterly
Local Authority Landfill Coverage		
Cheshire County Council (now part of Cheshire East Council) - Environmental Planning Department	February 2003	Not Applicable
Chester City Council (now part of Cheshire West and Chester Council) - Environmental Health Department	February 2003	Not Applicable
Wrexham County Borough Council	February 2003	Not Applicable
Local Authority Recorded Landfill Sites		
Cheshire County Council (now part of Cheshire East Council) - Environmental Planning Department	October 2018	
Chester City Council (now part of Cheshire West and Chester Council) - Environmental Health Department	October 2018	
Wrexham County Borough Council	October 2018	
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	
Registered Landfill Sites		
Environment Agency - North West Region - South Area	March 2006	Not Applicable
Environment Agency Wales - North Area	March 2006	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - North West Region - South Area	April 2018	
Environment Agency Wales - North Area	April 2018	
Registered Waste Treatment or Disposal Sites		
Environment Agency - North West Region - South Area	June 2015	
Environment Agency Wales - North Area	June 2015	

Hazardous Substances	Version	Update Cycle
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	March 2023	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	August 2001	
Planning Hazardous Substance Enforcements		
Cheshire West and Chester Council - Planning Department	August 2023	Variable
Wrexham County Borough Council - Planning Department	February 2016	Variable
Cheshire County Council (now part of Cheshire East Council) - Planning Department	July 2008	Annual Rolling Update
Chester City Council (now part of Cheshire West and Chester Council)	October 2008	Not Applicable
Planning Hazardous Substance Consents		
Cheshire West and Chester Council - Planning Department	April 2016	Variable
Wrexham County Borough Council - Planning Department	February 2016	Variable
Cheshire County Council (now part of Cheshire East Council) - Planning Department	July 2008	Annual Rolling Update
Chester City Council (now part of Cheshire West and Chester Council)	October 2008	Not Applicable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology		
British Geological Survey - National Geoscience Information Service	January 2009	As notified
BGS Estimated Soil Chemistry		
British Geological Survey - National Geoscience Information Service	December 2015	As notified
BGS Recorded Mineral Sites		
British Geological Survey - National Geoscience Information Service	June 2023	Bi-Annually
CBSCB Compensation District		
Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	
Cheshire Brine Subsidence Compensation Board (CBSCB)	November 2020	As notified
Coal Mining Affected Areas		
The Coal Authority - Property Searches	February 2023	Annual Rolling Update
Mining Instability		
Ove Arup & Partners	June 1998	Not Applicable
Non Coal Mining Areas of Great Britain		
British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	April 2020	As notified
Potential for Compressible Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Ground Dissolution Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Landslide Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Running Sand Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Potential for Shrinking or Swelling Clay Ground Stability Hazards		
British Geological Survey - National Geoscience Information Service	January 2019	As notified
Radon Potential - Radon Affected Areas		
British Geological Survey - National Geoscience Information Service	October 2023	Annually
Radon Potential - Radon Protection Measures		
British Geological Survey - National Geoscience Information Service	October 2023	Annually

Industrial Land Use	Version	Update Cycle
Contemporary Trade Directory Entries Thomson Directories	October 2023	Quarterly
Fuel Station Entries Catalist Ltd - Experian	November 2023	Quarterly
Gas Pipelines National Grid	October 2021	Bi-Annually
Points of Interest - Commercial Services PointX	December 2023	Quarterly
Points of Interest - Education and Health PointX	December 2023	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2023	Quarterly
Points of Interest - Public Infrastructure PointX	December 2023	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2023	Quarterly
Underground Electrical Cables National Grid	February 2023	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland		
Natural Resources Wales	October 2023	Bi-Annually
Areas of Adopted Green Belt		
Cheshire West and Chester Council - Planning Department	August 2023	Quarterly
Chester City Council (now part of Cheshire West and Chester Council)	August 2023	Quarterly
Wrexham County Borough Council	August 2023	Quarterly
Areas of Unadopted Green Belt		
Cheshire West and Chester Council - Planning Department	August 2023	Quarterly
Chester City Council (now part of Cheshire West and Chester Council)	August 2023	Quarterly
Wrexham County Borough Council	August 2023	Quarterly
Areas of Outstanding Natural Beauty		
Natural England	November 2023	Bi-Annually
Natural Resources Wales	November 2023	Bi-Annually
Environmentally Sensitive Areas		
Natural England	August 2023	
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	January 2017	
Forest Parks		
Forestry Commission	May 2023	Not Applicable
Local Nature Reserves		
Natural England	August 2023	Bi-Annually
Wrexham County Borough Council	August 2023	Bi-Annually
Marine Nature Reserves		
Natural Resources Wales	October 2023	Bi-Annually
National Nature Reserves		
Natural Resources Wales	September 2023	Bi-Annually
National Parks		
Natural Resources Wales	February 2018	Annually
Natural England	February 2018	Bi-Annually
Nitrate Vulnerable Zones		
The National Assembly for Wales - GI Services (Department of Planning & Countryside)	April 2016	
Natural Resources Wales	March 2023	Bi-Annually
Ramsar Sites		
Natural Resources Wales	October 2023	Bi-Annually
Sites of Special Scientific Interest		
Natural Resources Wales	October 2023	Bi-Annually
Special Areas of Conservation		
Natural Resources Wales	October 2023	Bi-Annually
Special Protection Areas		
Natural Resources Wales	October 2023	Bi-Annually

Data Suppliers

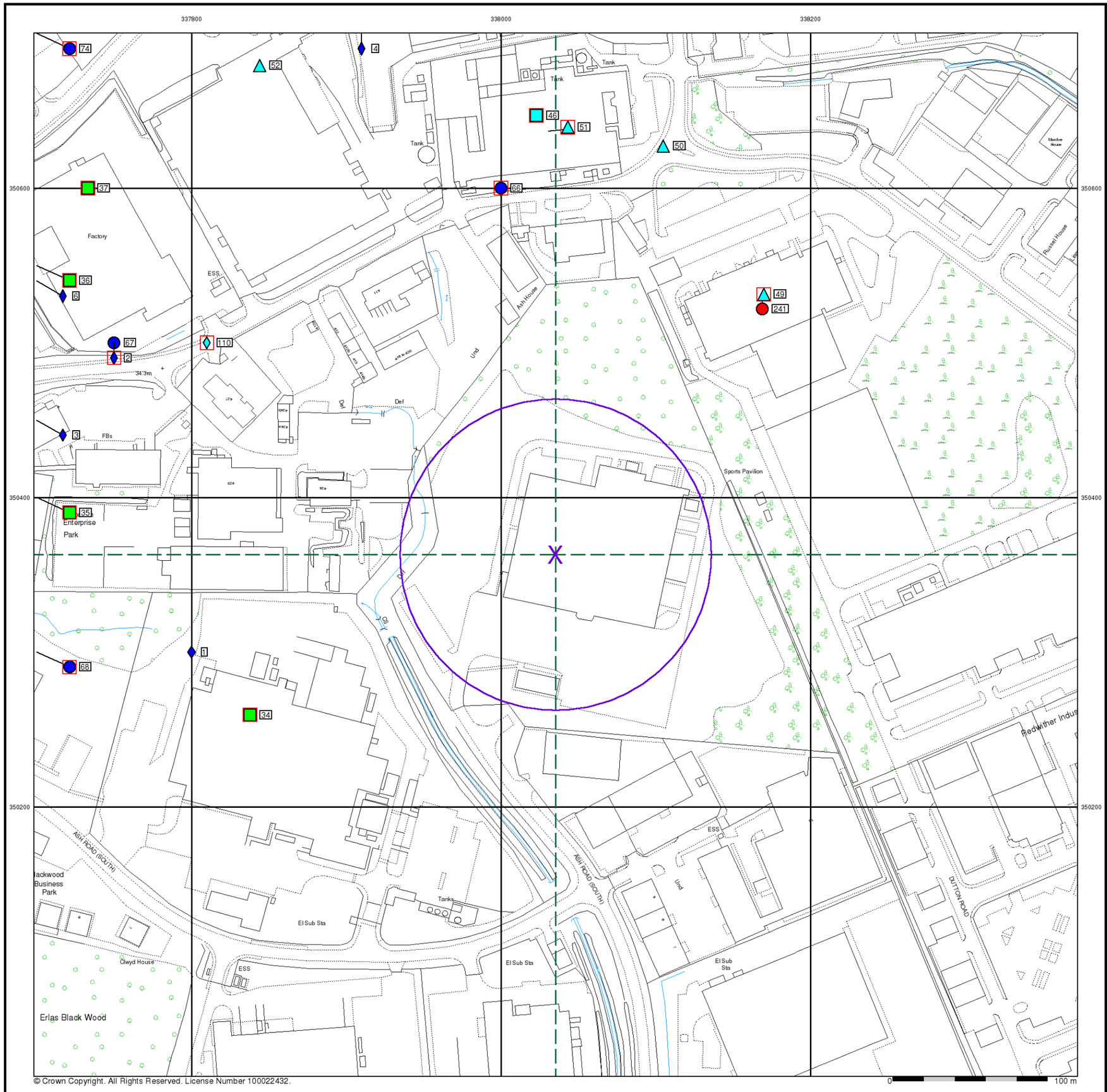
A selection of organisations who provide data within this report

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

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Natural Resources Wales** Ty Cambria, 29 Newport Road, Cardiff, CF24 0TP	Telephone: 0300 065 3000 Email: enquiries@naturalresourceswales.gov.uk
3	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
4	**Wrexham County Borough Council - Environmental Health Department** Crown Buildings, P O Box 1297, Wrexham, Clwyd, LL13 8ZE	Telephone: 01978 297038 Fax: 01978 292502 Website: www.wrexham.gov.uk
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**Wrexham County Borough Council** Lampet Street, Guildhall, Wrexham, Clwyd, LL11 1WL	Telephone: 01978 292000 Fax: 01978 292502 Website: www.wrexham.gov.uk
7	**The Coal Authority - Property Searches** 200 Lichfield Lane, Mansfield, Nottinghamshire, NG18 4RG	Telephone: 0345 762 6848 Fax: 01623 637 338 Email: groundstability@coal.gov.uk Website: www2.groundstability.com
8	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



General

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

Agency and Hydrological

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

Hazardous Substances

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

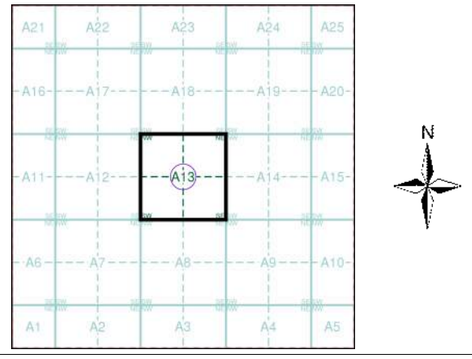
Geological

- BGS Recorded Mineral Site

Waste

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

Site Sensitivity Map - Segment A13



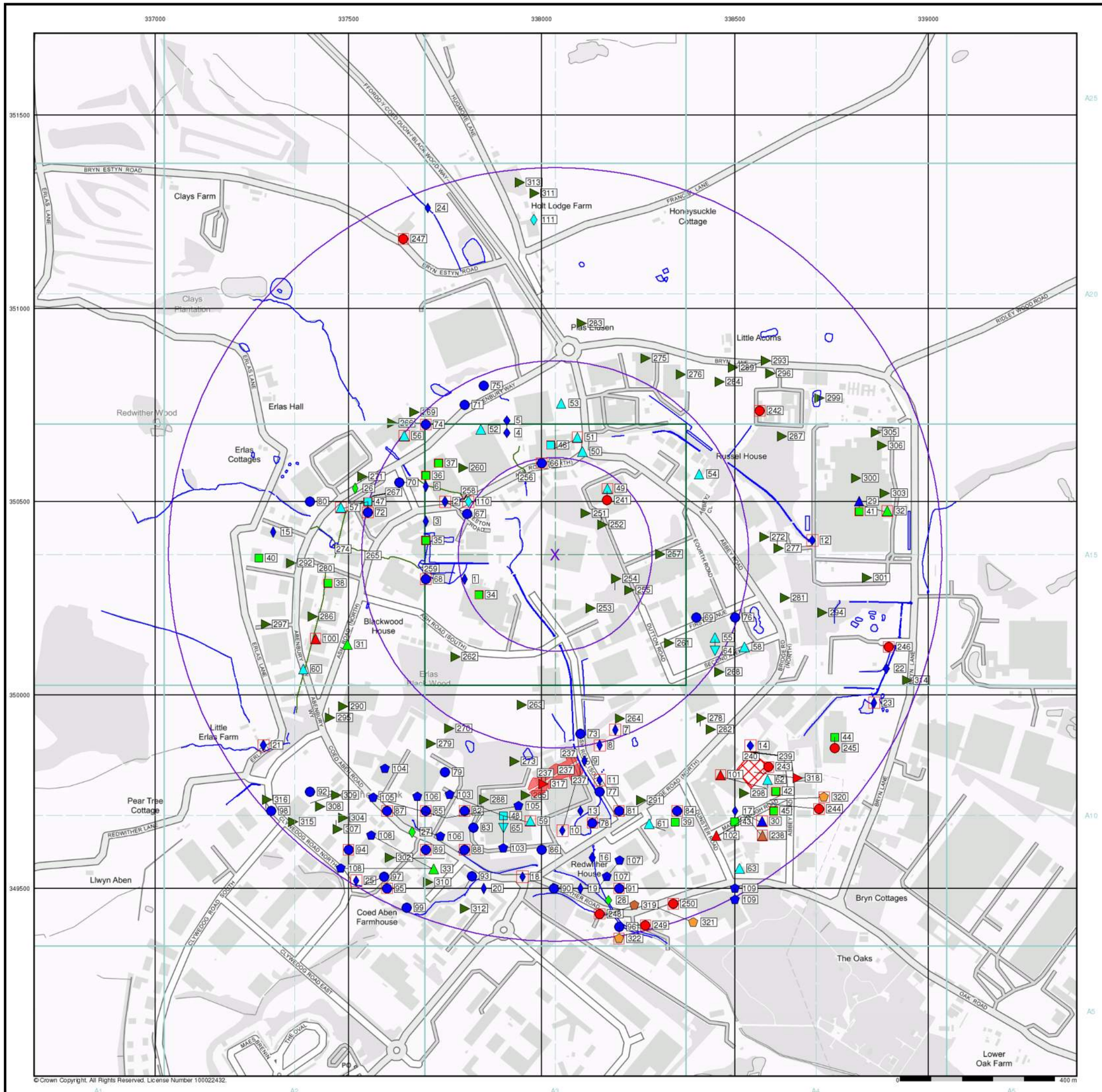
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Plot Buffer (m):	100

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG

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



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General

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

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
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- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
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- River Network or Water Feature
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- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

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

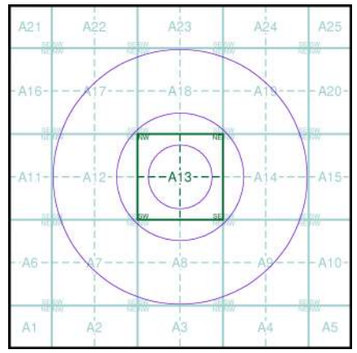
Geological

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Waste

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- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



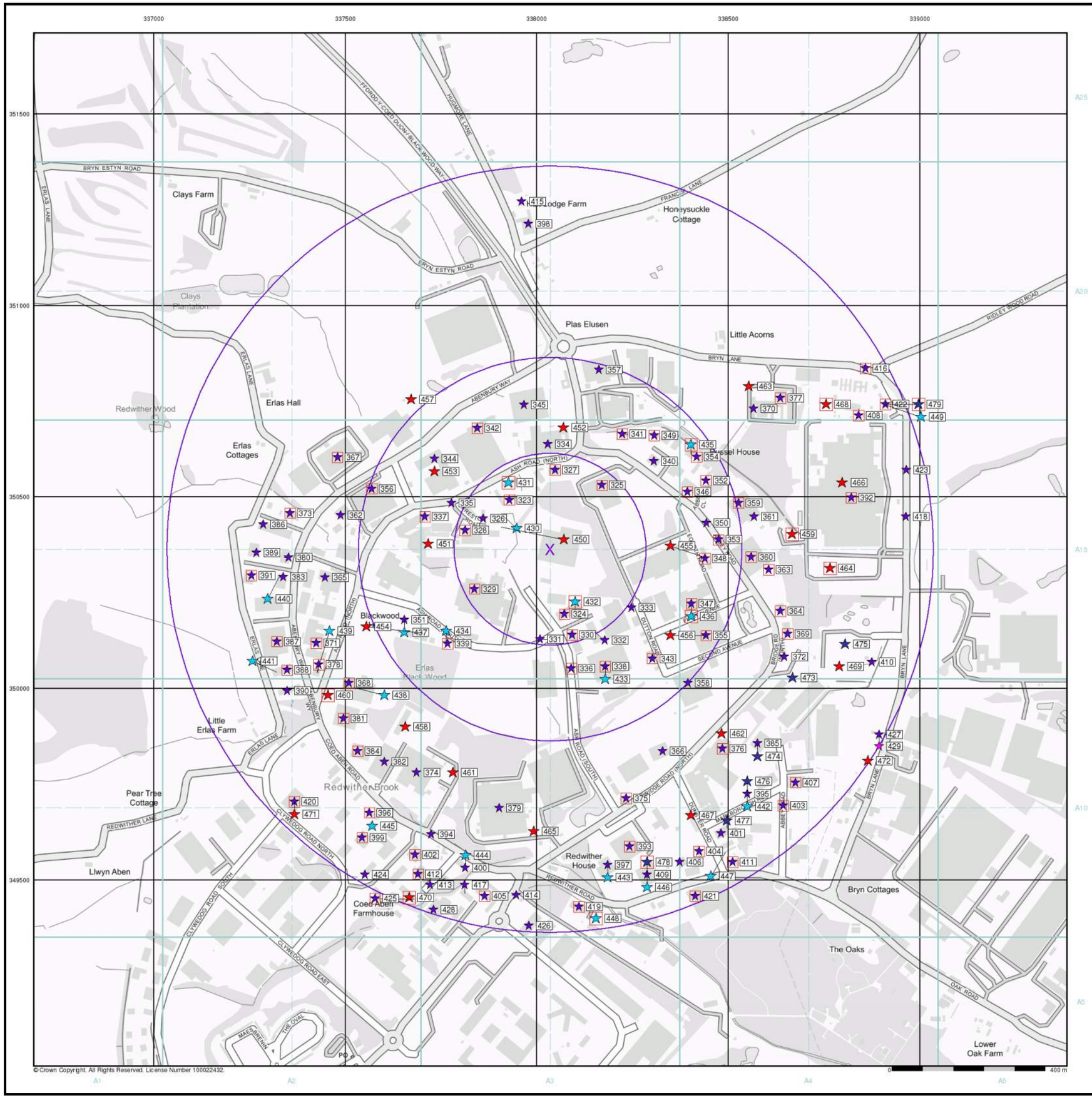
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG

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



Industrial Land Use Map

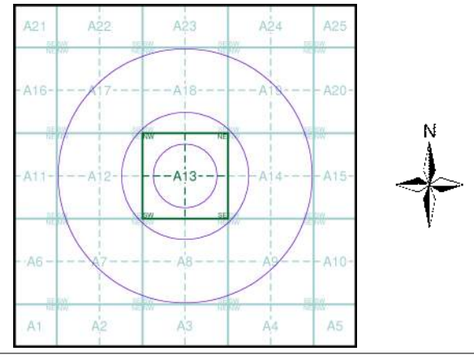
General

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

Industrial Land Use

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

Industrial Land Use Map - Slice A



Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG

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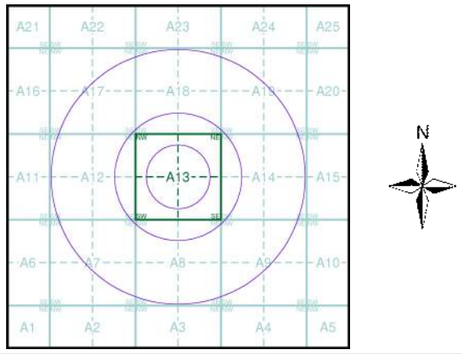
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



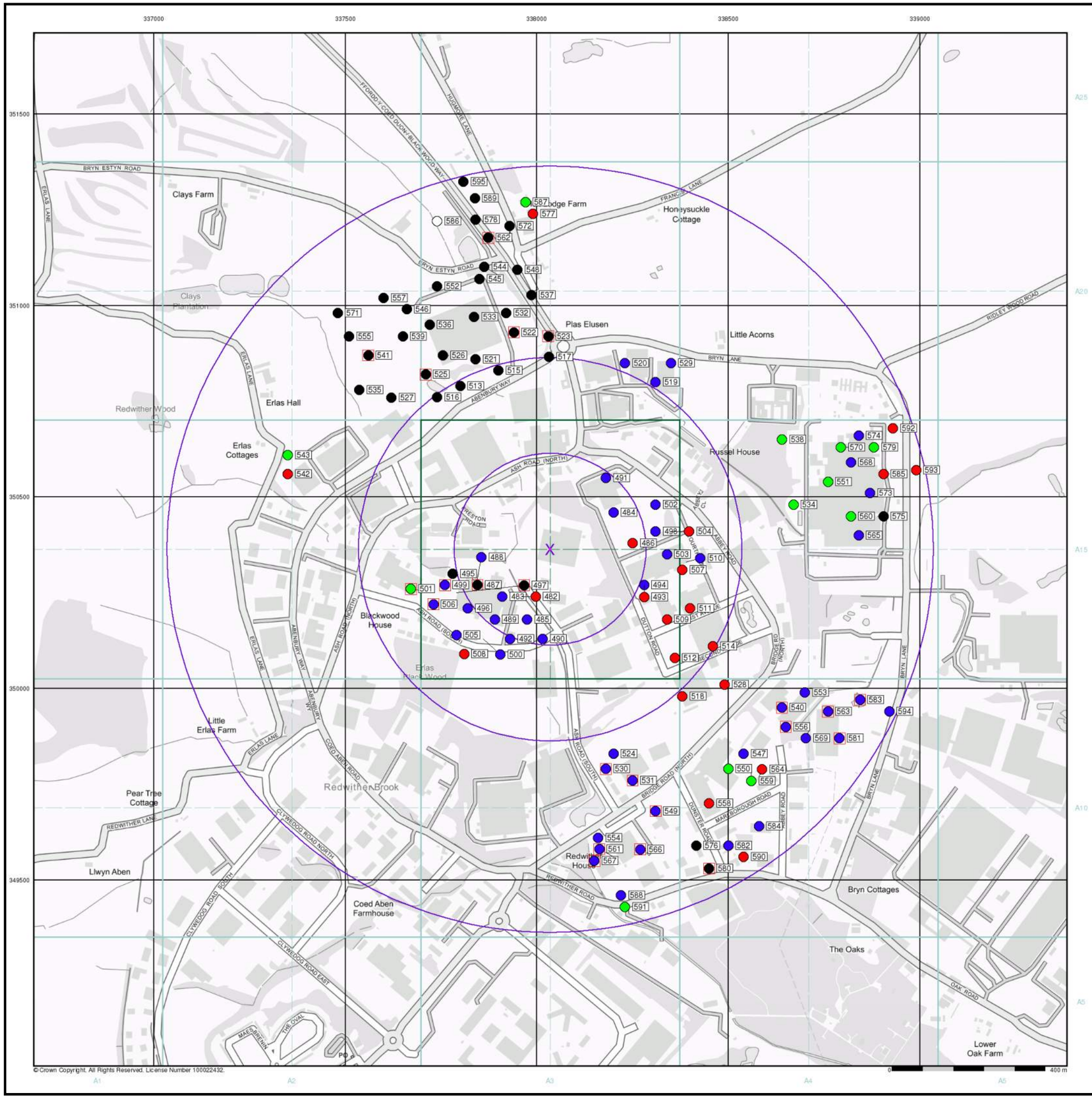
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG

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



General

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

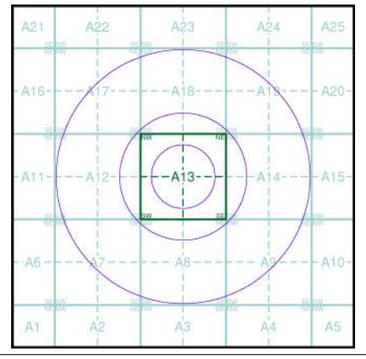
Agency and Hydrological (Boreholes)

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

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

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

Borehole Map - Slice A



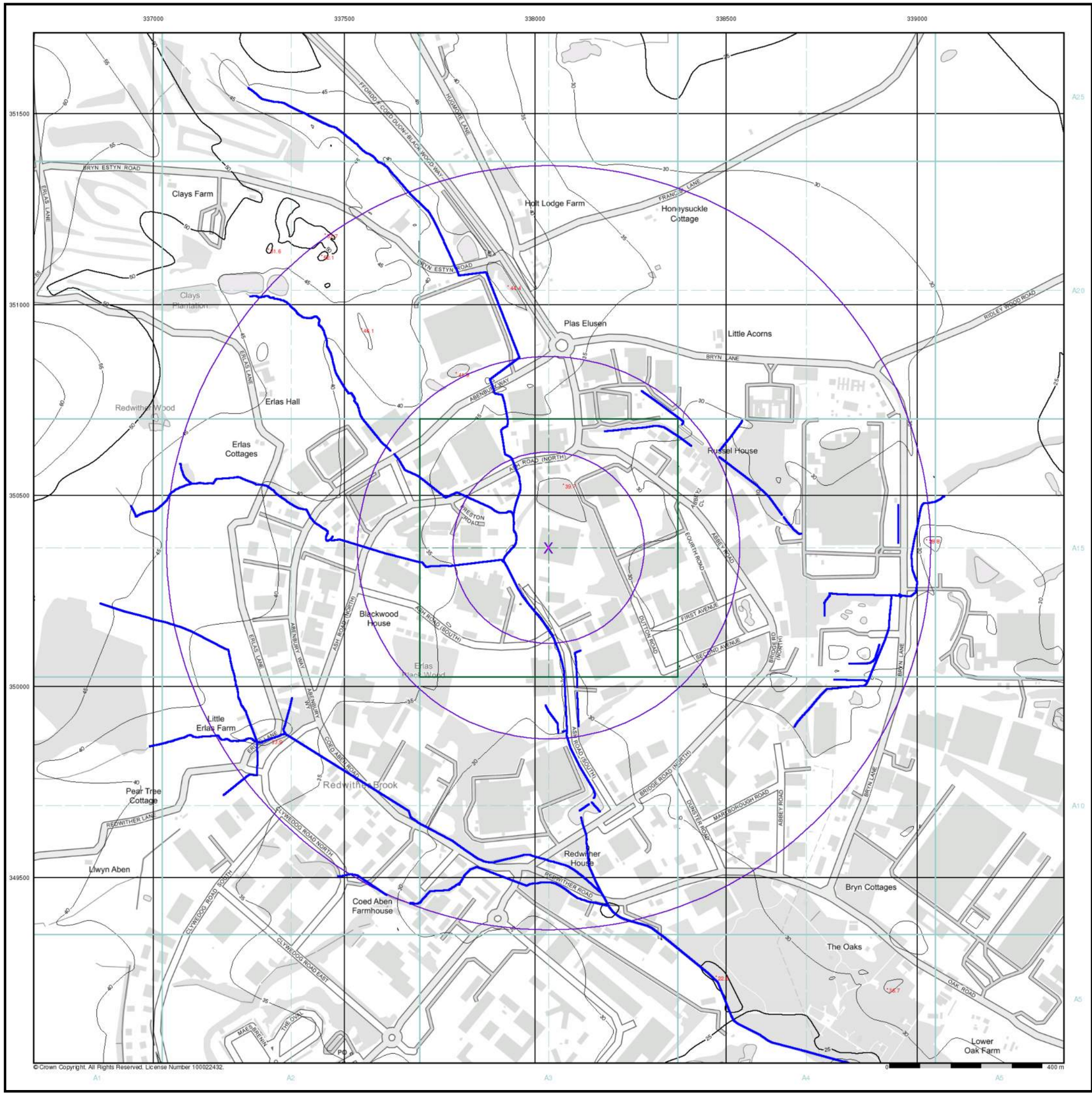
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	1000

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG

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



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General

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

OS Water Network Data

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

Contours (height in meters)

Standard Contour 105 100 95

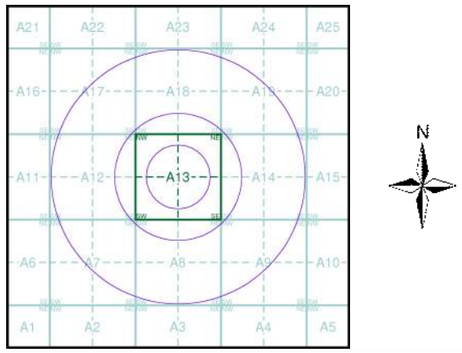
Master Contour

Spot Height 167.3

MLW Mean Low Water

MHW Mean High Water

OS Water Network Map - Slice A



Order Details

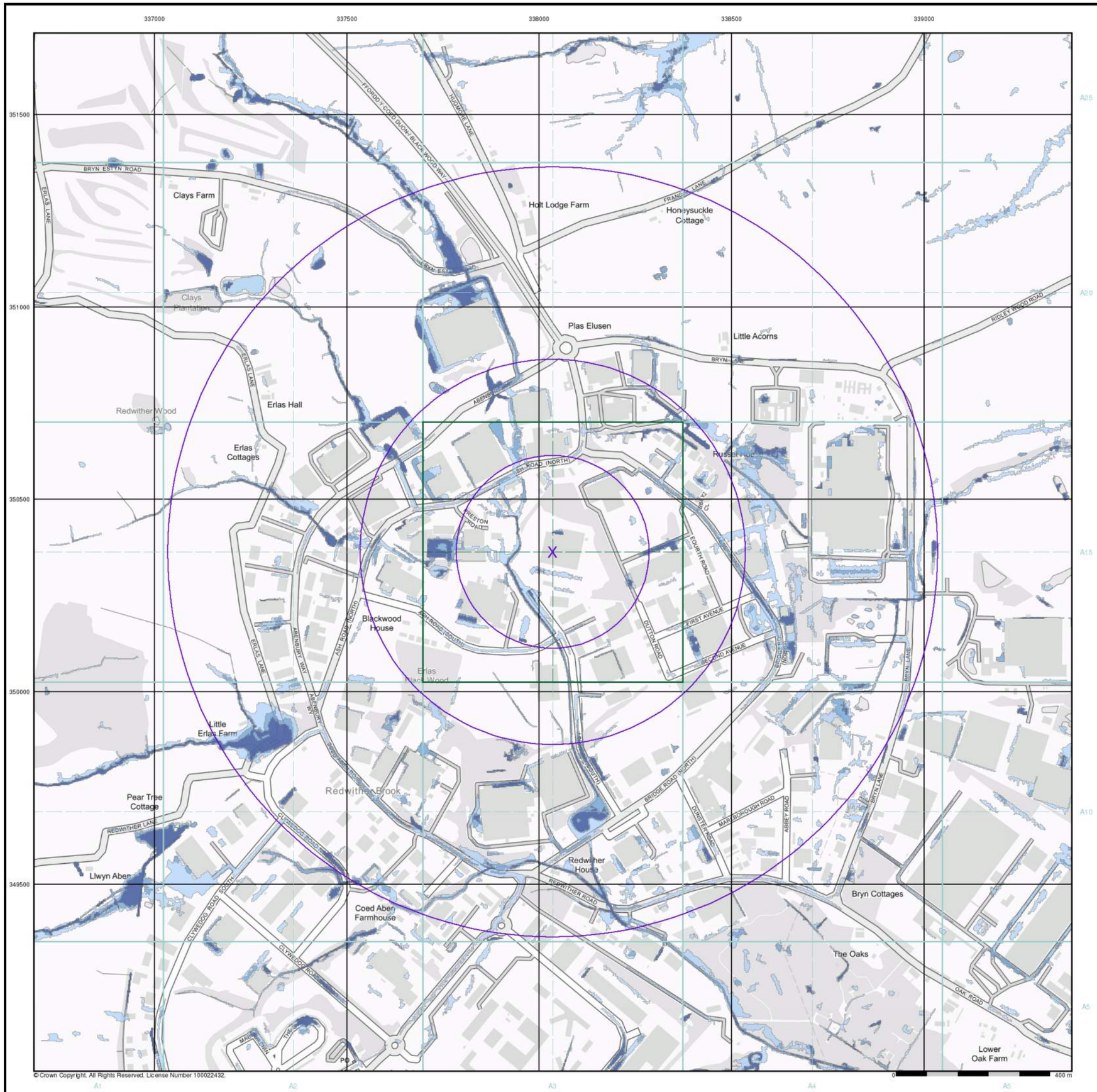
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General

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

Risk of Flooding from Surface Water

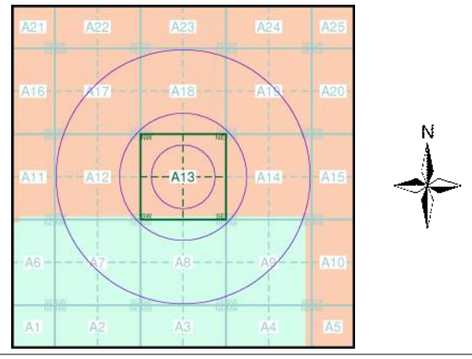
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice A



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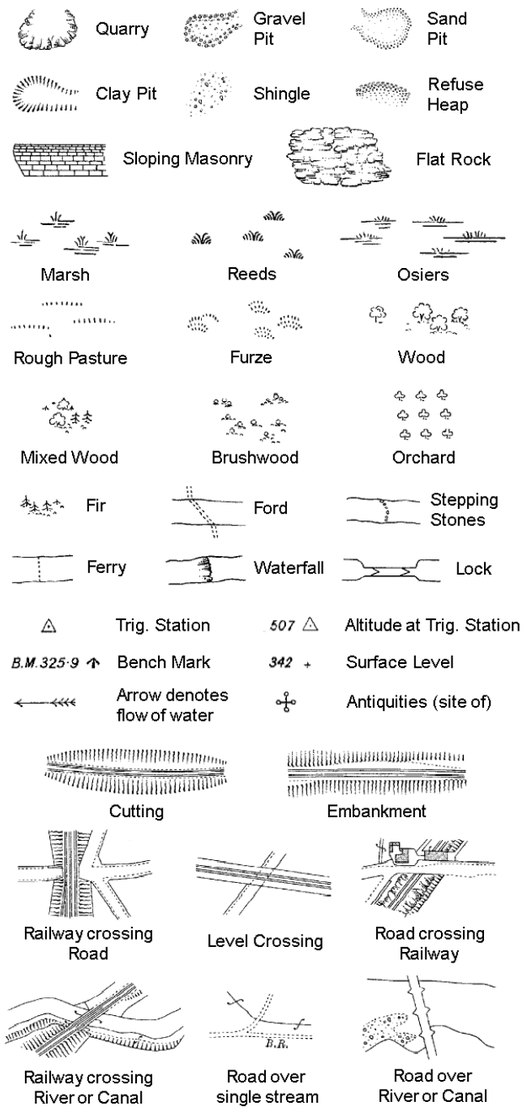
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Historical Mapping Legends

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



County Boundary (Geographical)

County & Civil Parish Boundary

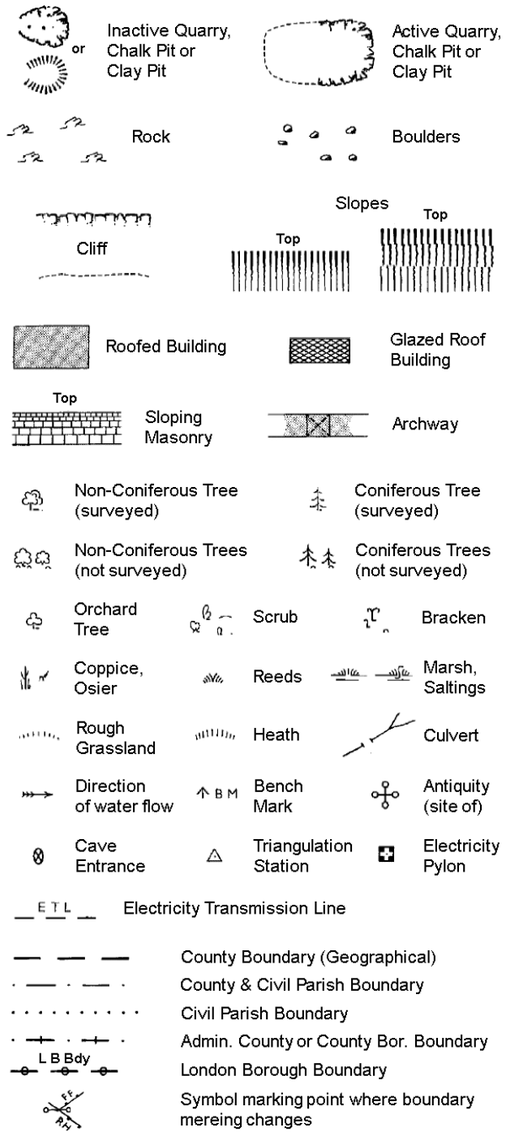
Administrative County & Civil Parish Boundary

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

Co. Burgh Bdy. County Burgh Boundary (Scotland)

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

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



County Boundary (Geographical)

County & Civil Parish Boundary

Civil Parish Boundary

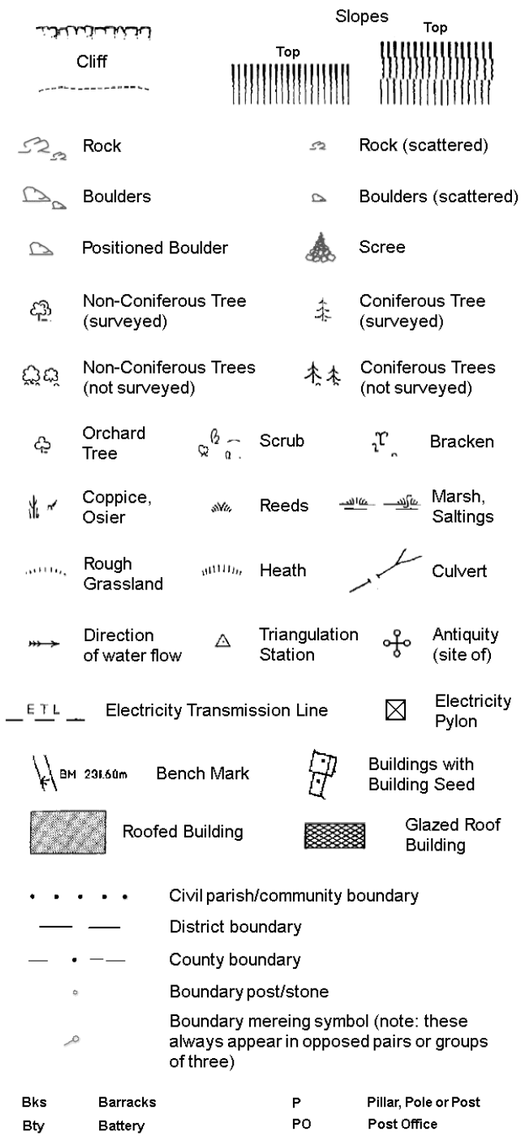
Admin. County or County Bor. Boundary

L B Bdy London Borough Boundary

Symbol marking point where boundary mereing changes

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

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



Civil parish/community boundary

District boundary

County boundary

Boundary post/stone

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

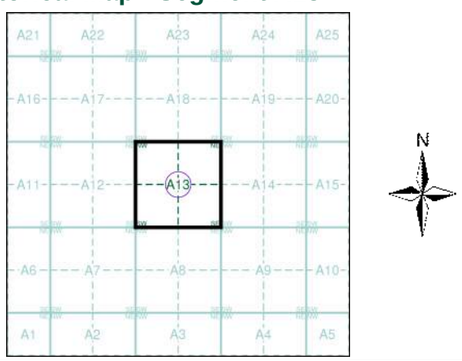
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity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

Jubb

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Denbighshire	1:2,500	1873	2
Denbighshire	1:2,500	1899	3
Denbighshire	1:2,500	1911	4
Ordnance Survey Plan	1:2,500	1961	5
Additional SIMs	1:2,500	1961 - 1982	6
Ordnance Survey Plan	1:2,500	1974	7
Additional SIMs	1:2,500	1982 - 1987	8
Additional SIMs	1:2,500	1988 - 1989	9
Additional SIMs	1:2,500	1990	10
Ordnance Survey Plan	1:2,500	1992	11
Large-Scale National Grid Data	1:2,500	1992	12
Large-Scale National Grid Data	1:2,500	1993 - 1994	13
Large-Scale National Grid Data	1:2,500	1994 - 1995	14
Large-Scale National Grid Data	1:2,500	1995	15
Historical Aerial Photography	1:2,500	2003	16

Historical Map - Segment A13



Order Details

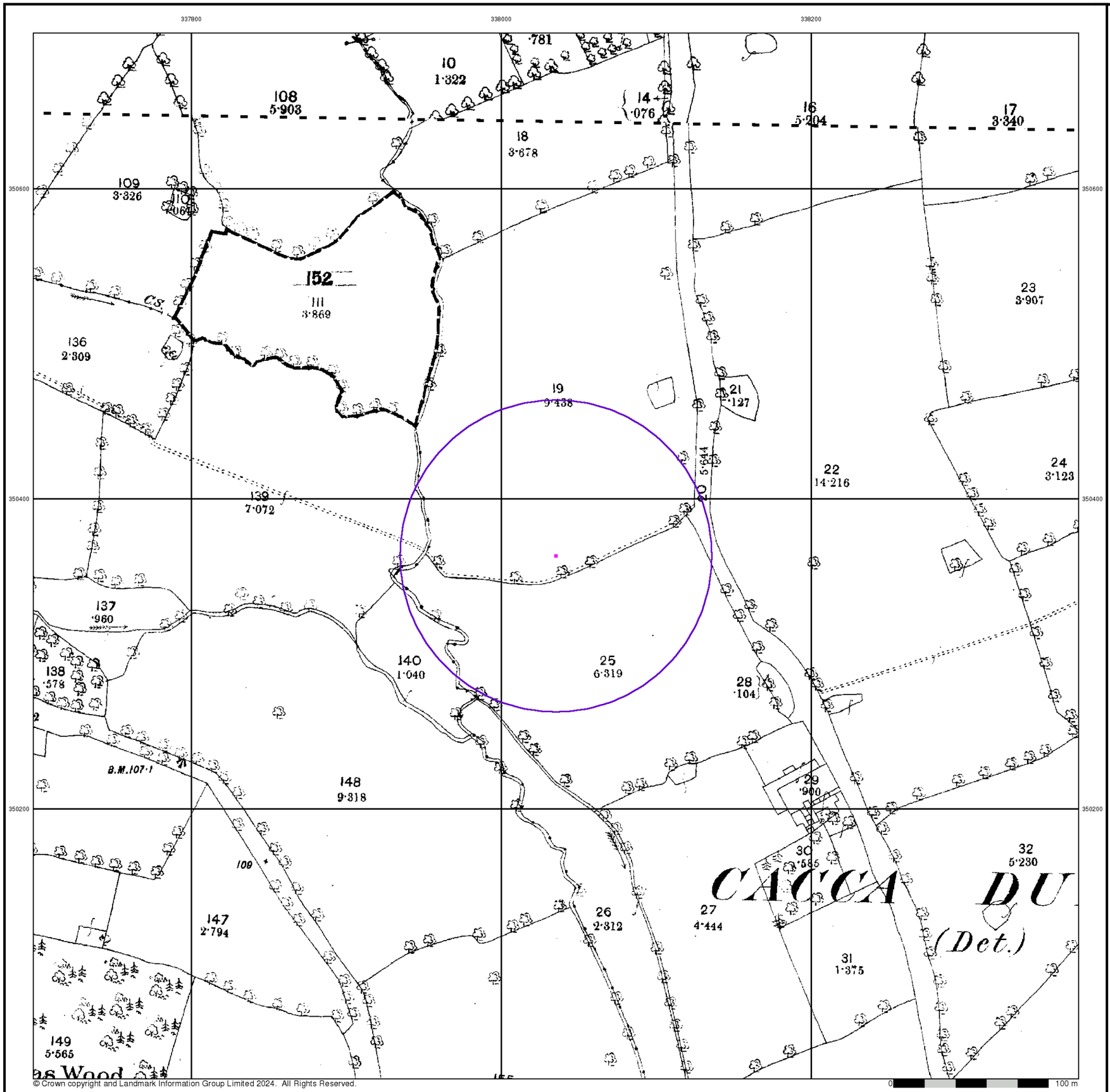
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Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

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Jubb

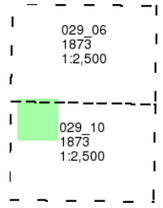
Denbighshire

Published 1873

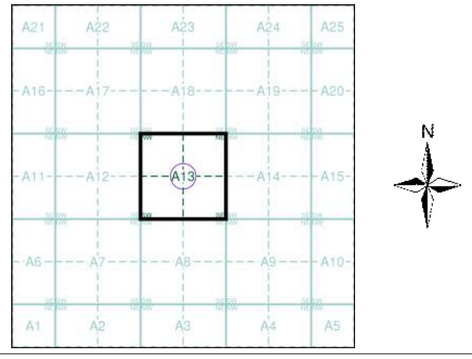
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



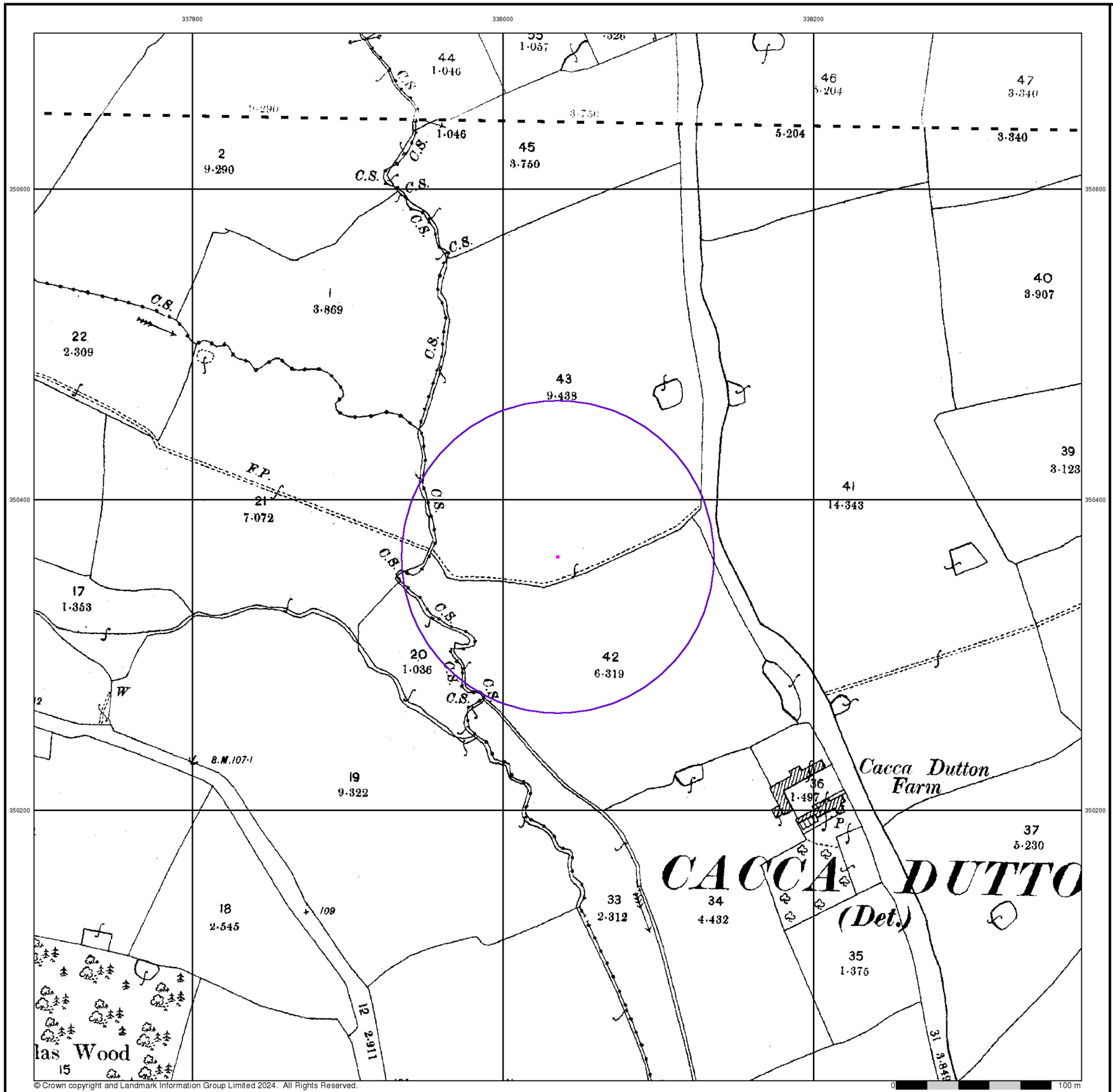
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Jubb

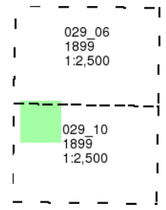
Denbighshire

Published 1899

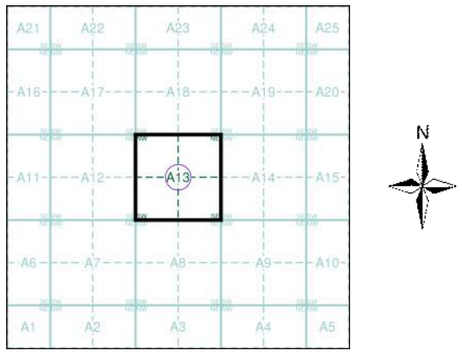
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

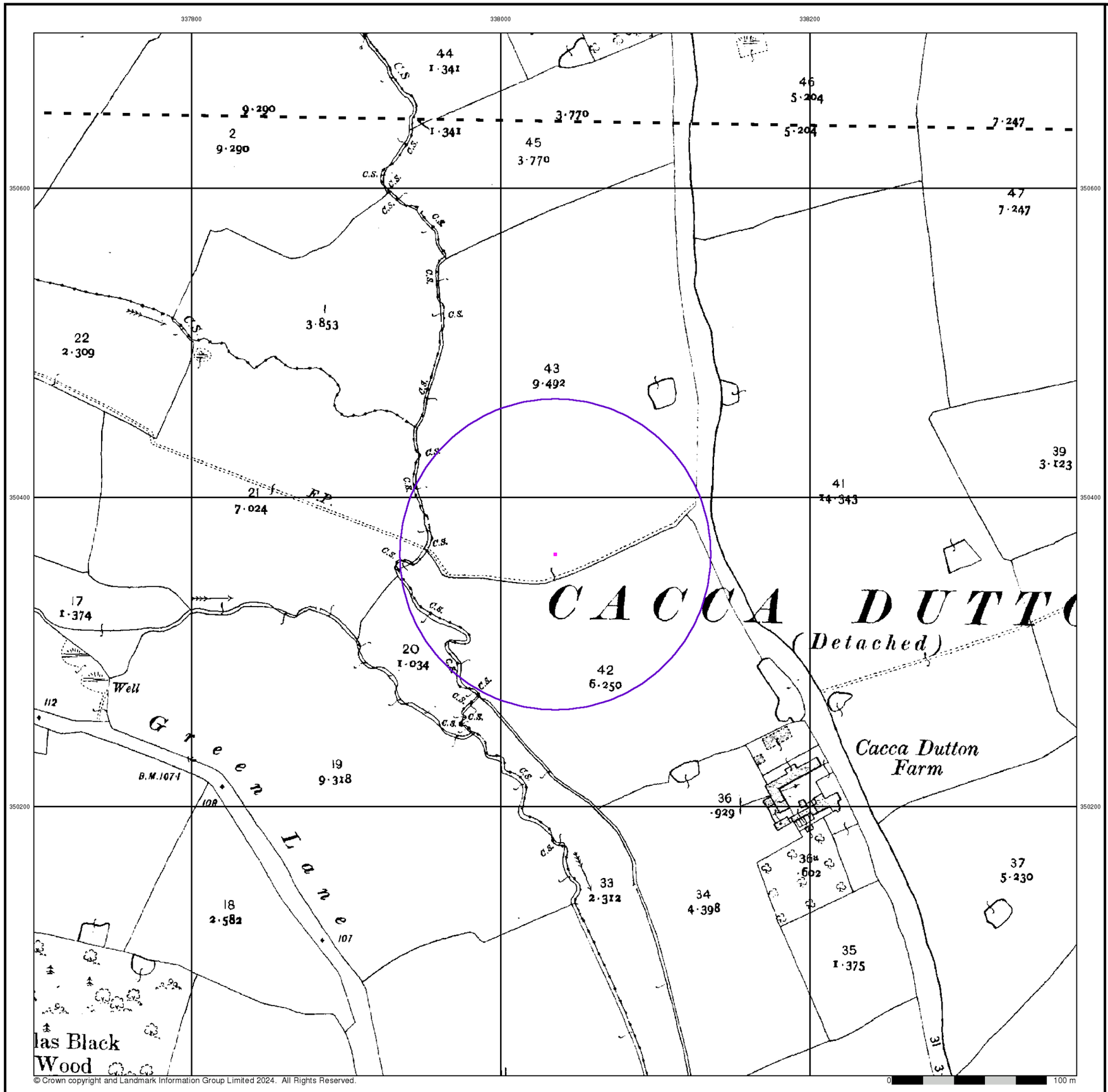
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Customer Ref:	23284
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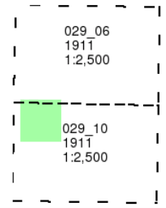
Denbighshire

Published 1911

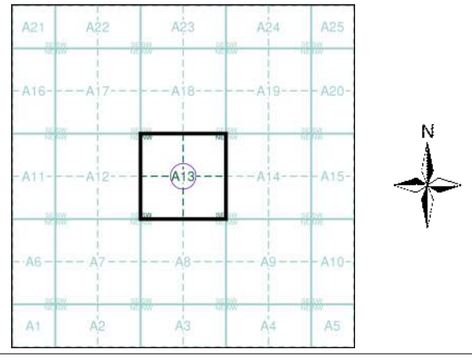
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered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

Map Name(s) and Date(s)



Historical Map - Segment A13



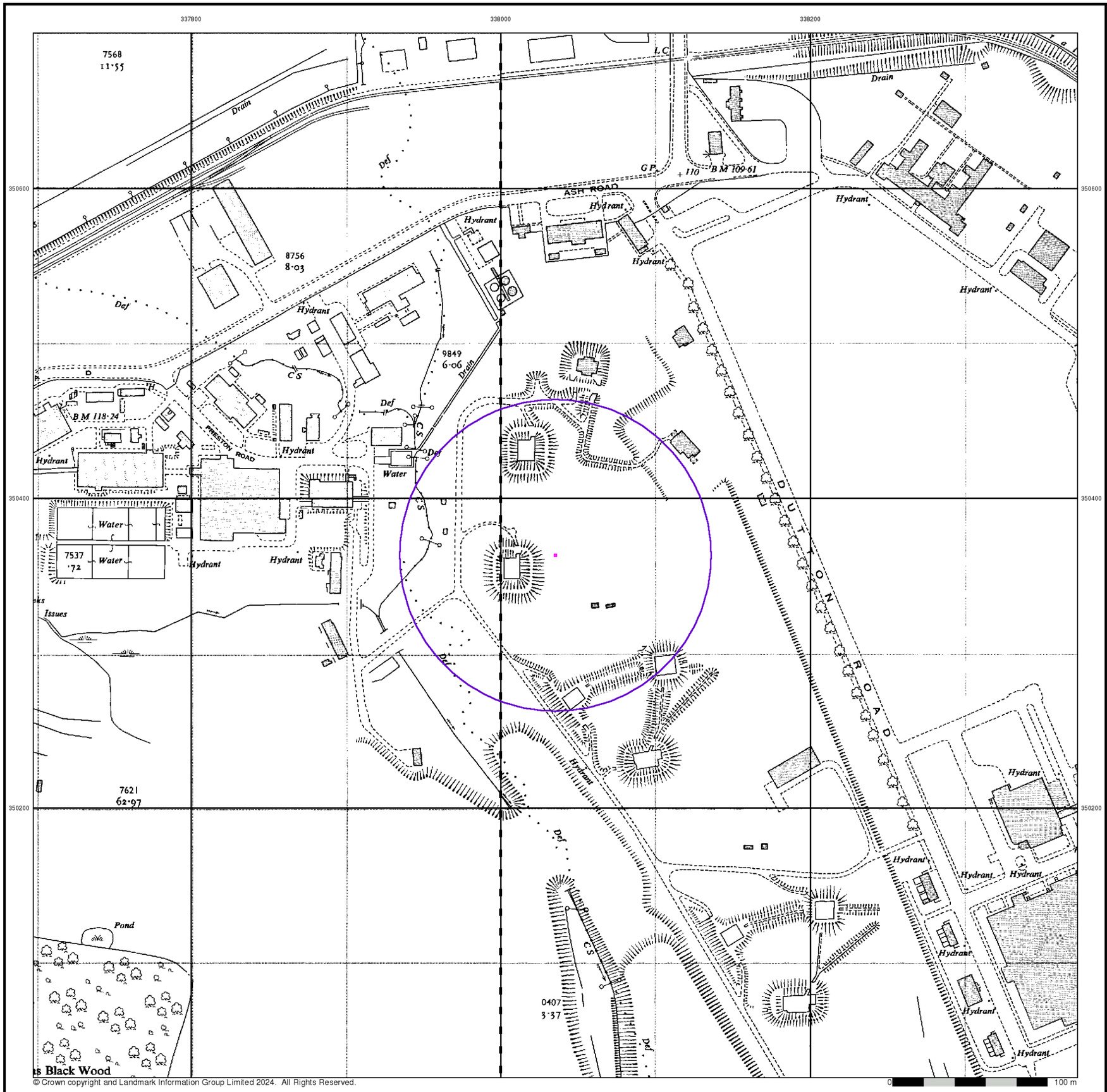
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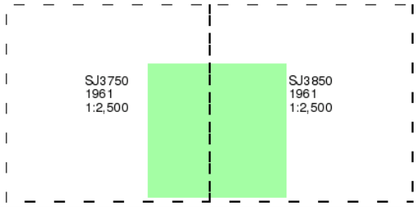
Ordnance Survey Plan

Published 1961

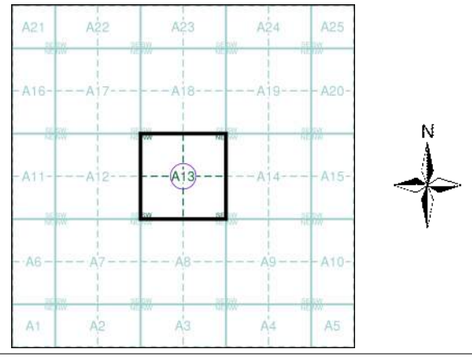
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



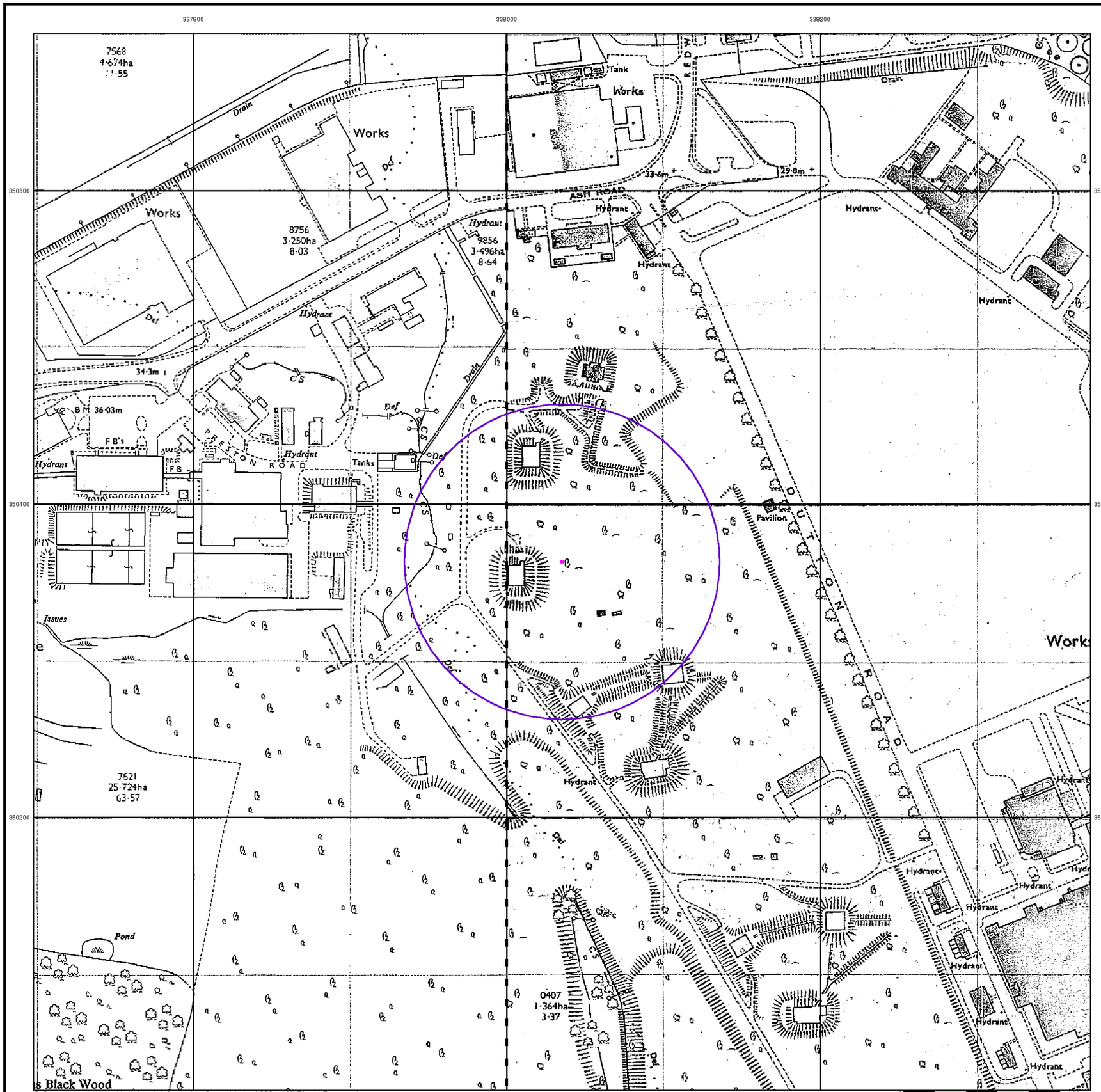
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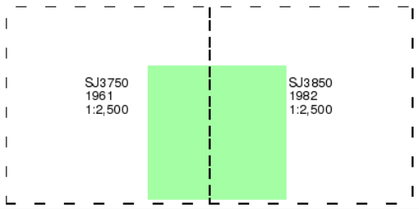
Additional SIMs

Published 1961 - 1982

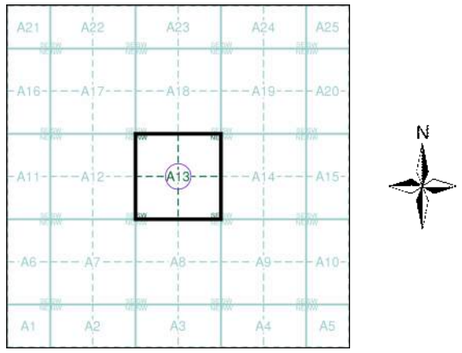
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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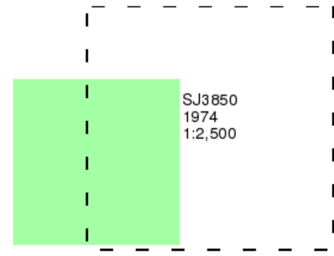
Ordnance Survey Plan

Published 1974

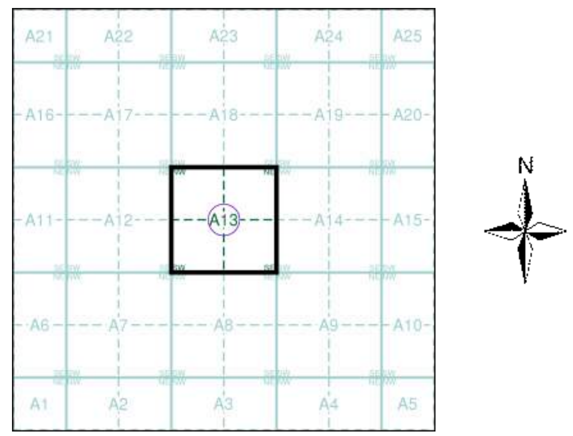
Source map scale - 1:2,500

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Historical Map - Segment A13



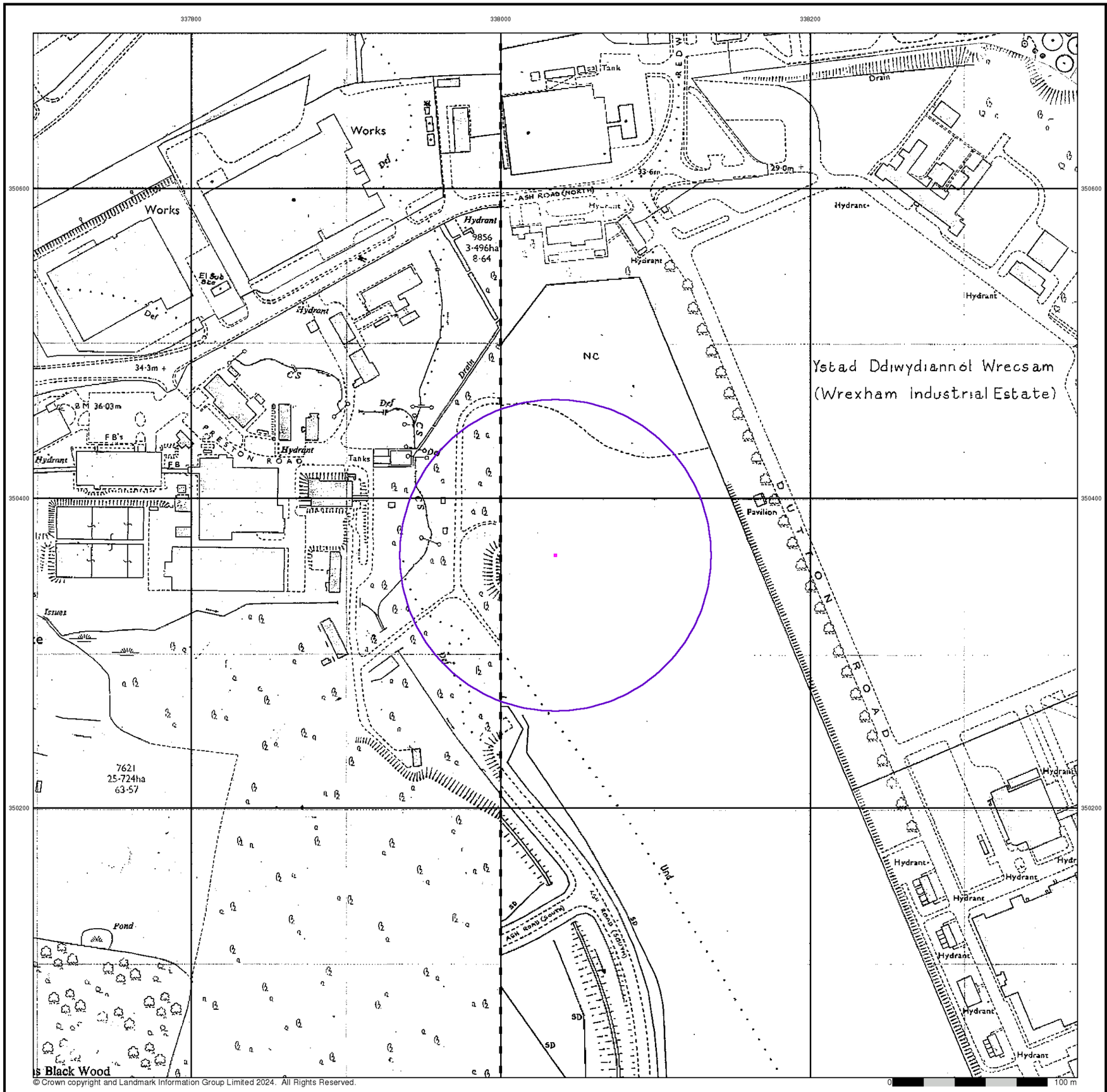
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Slice: A
Site Area (Ha): 0.01
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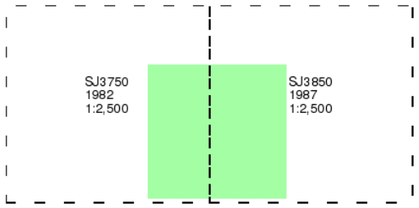
Additional SIMs

Published 1982 - 1987

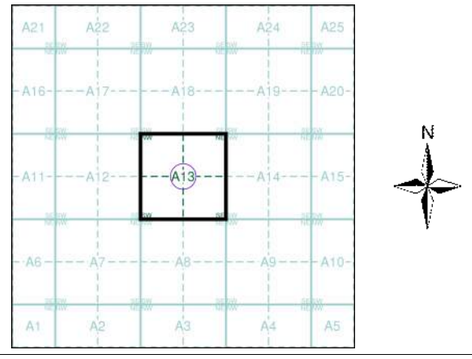
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



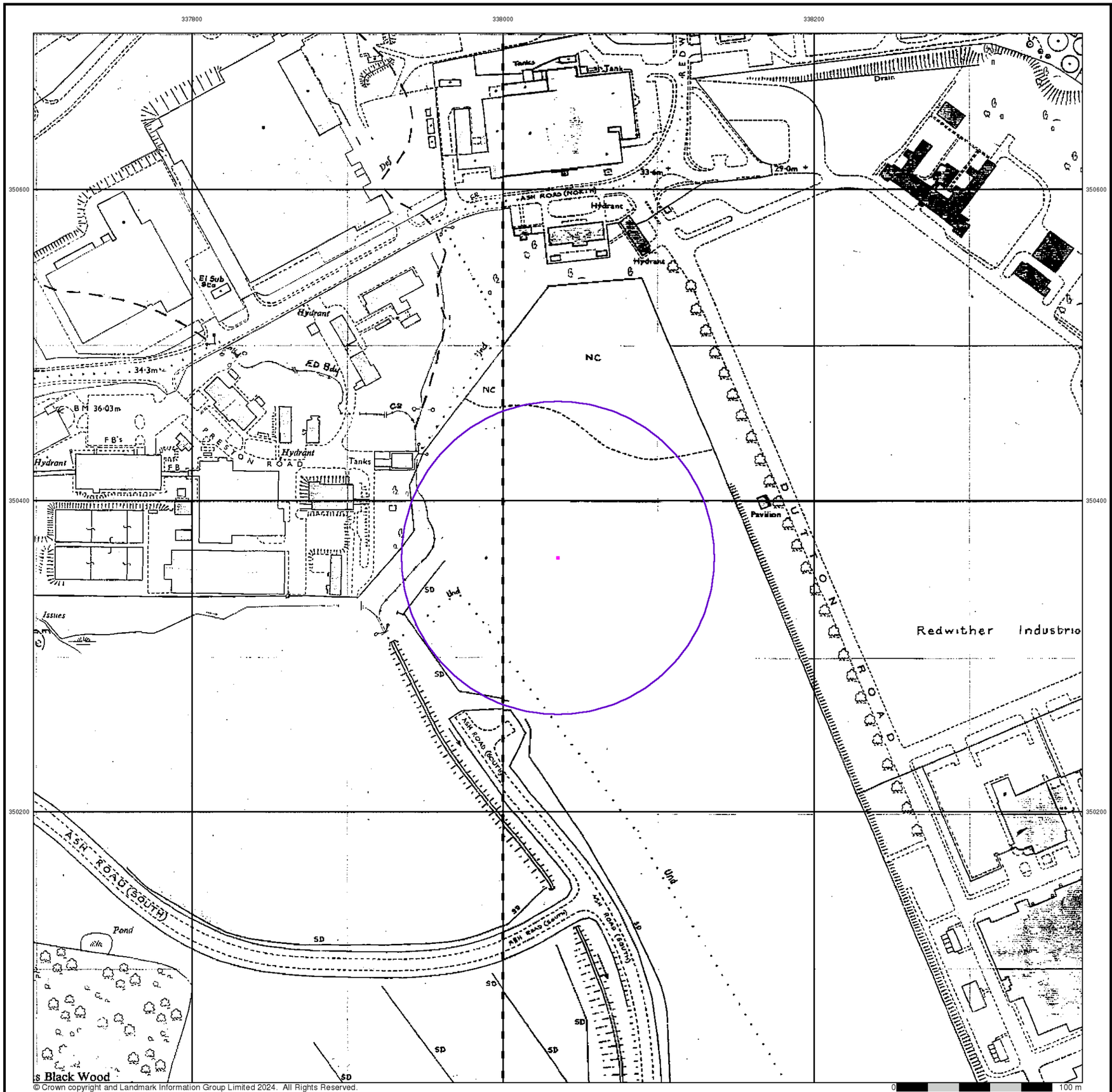
Order Details

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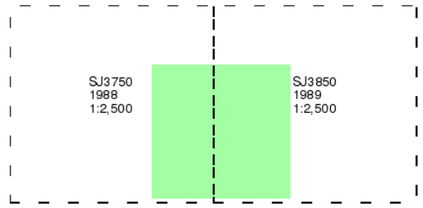
Additional SIMs

Published 1988 - 1989

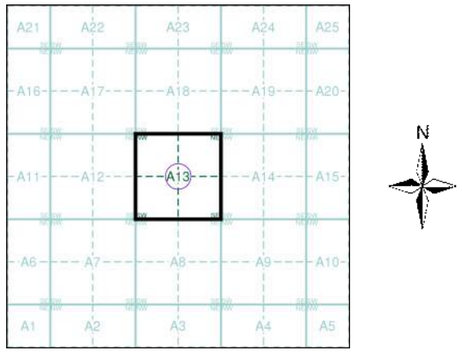
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



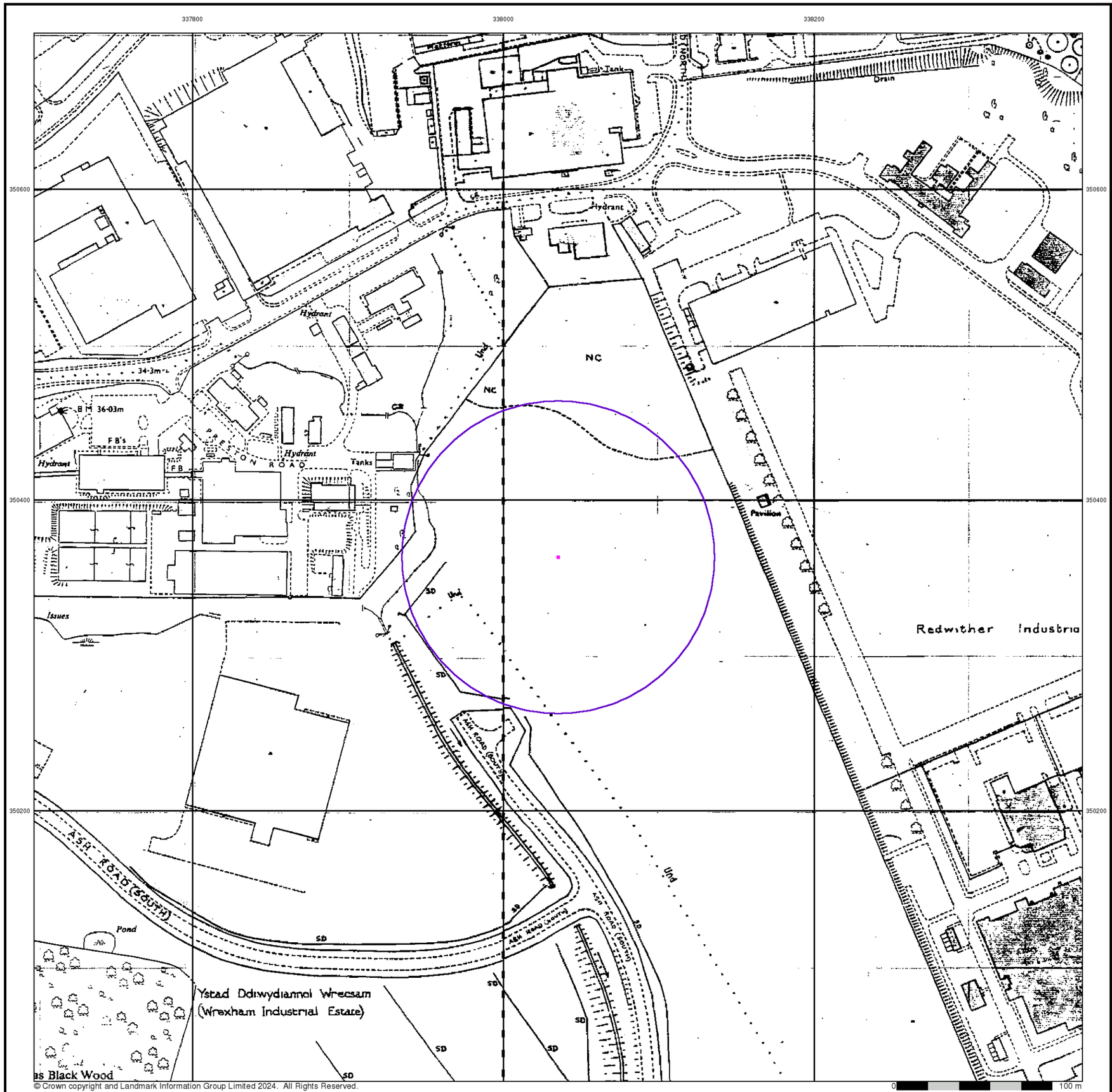
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG

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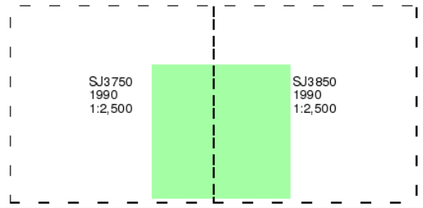
Additional SIMs

Published 1990

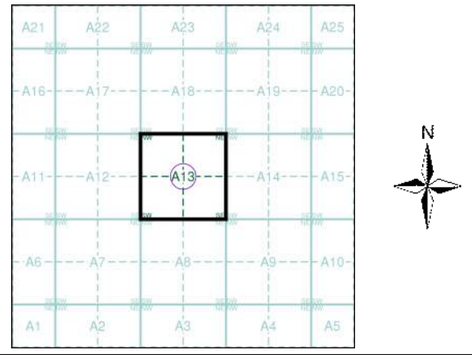
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



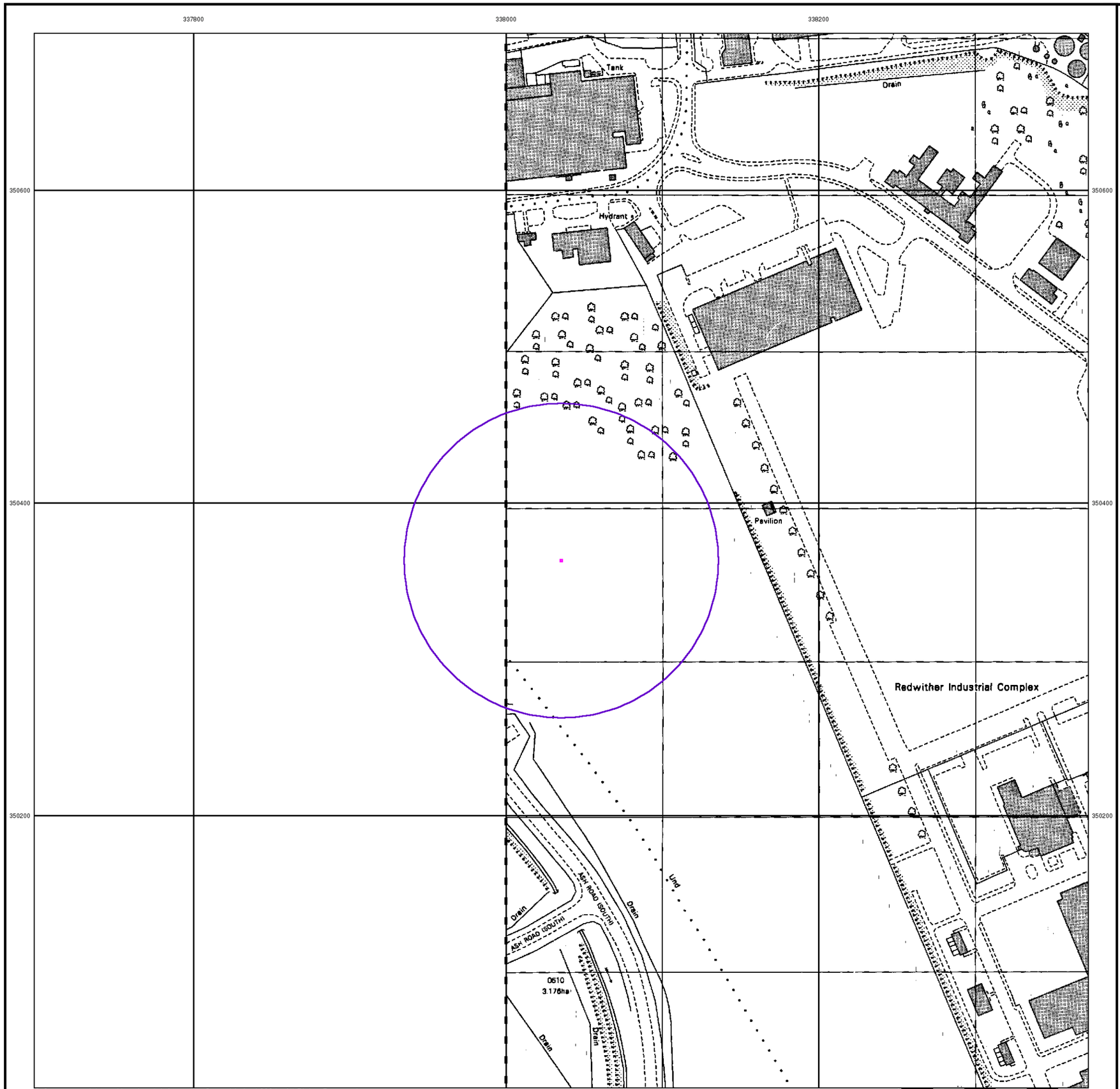
Order Details

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National Grid Reference:	338040, 350360
Slice:	A
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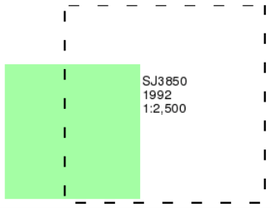
Ordnance Survey Plan

Published 1992

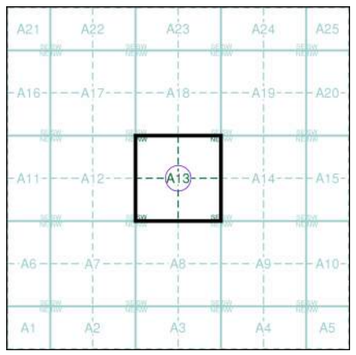
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



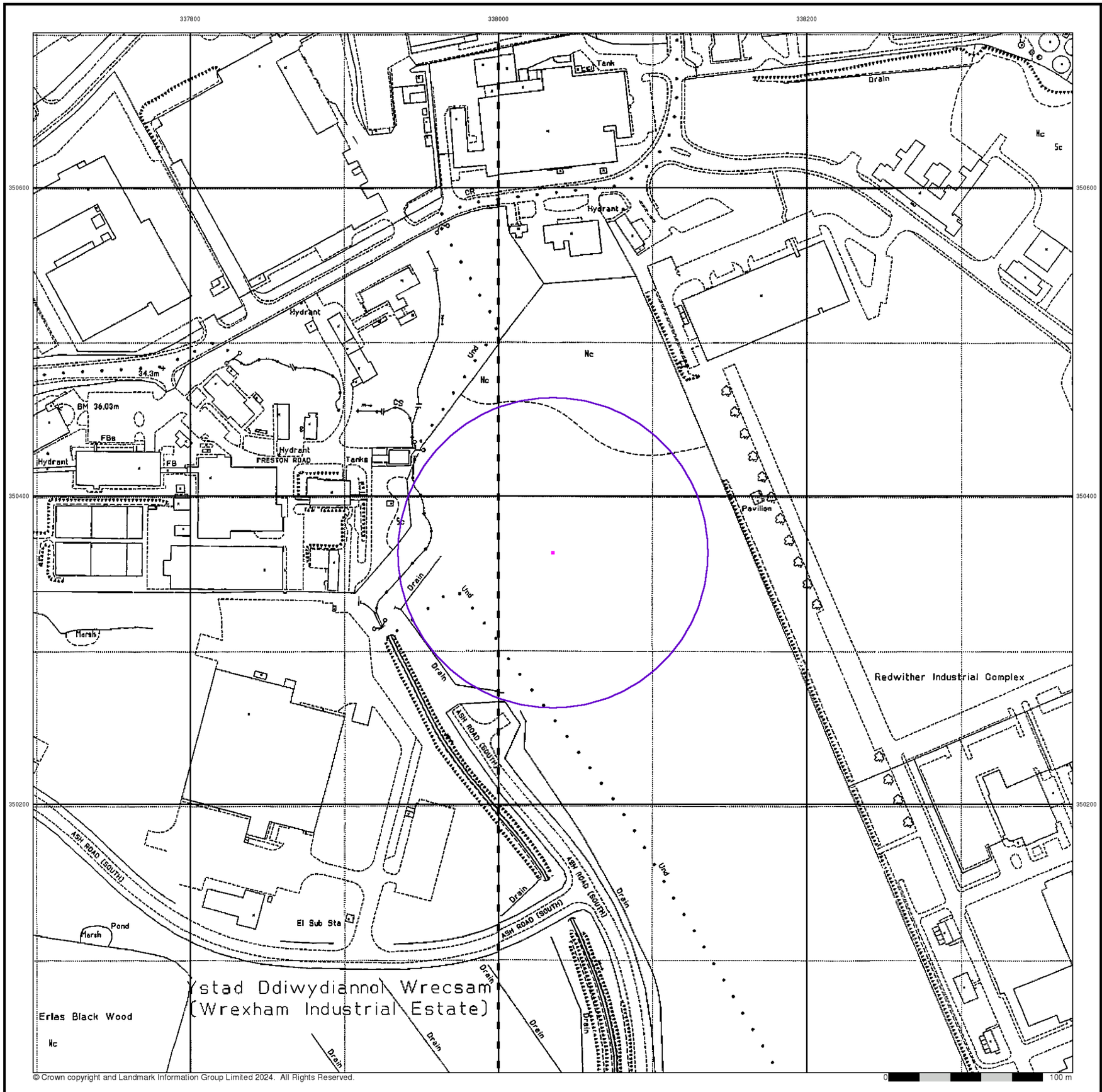
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

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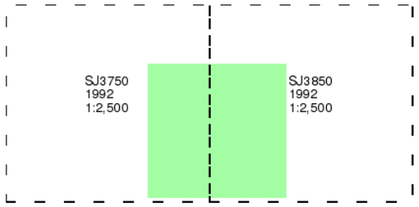
Large-Scale National Grid Data

Published 1992

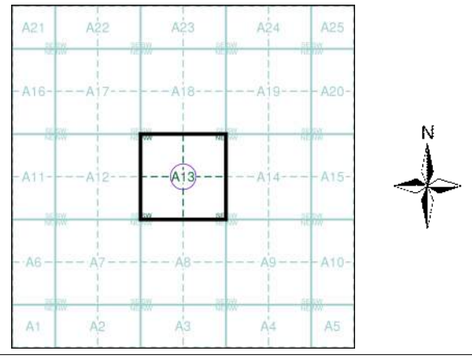
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



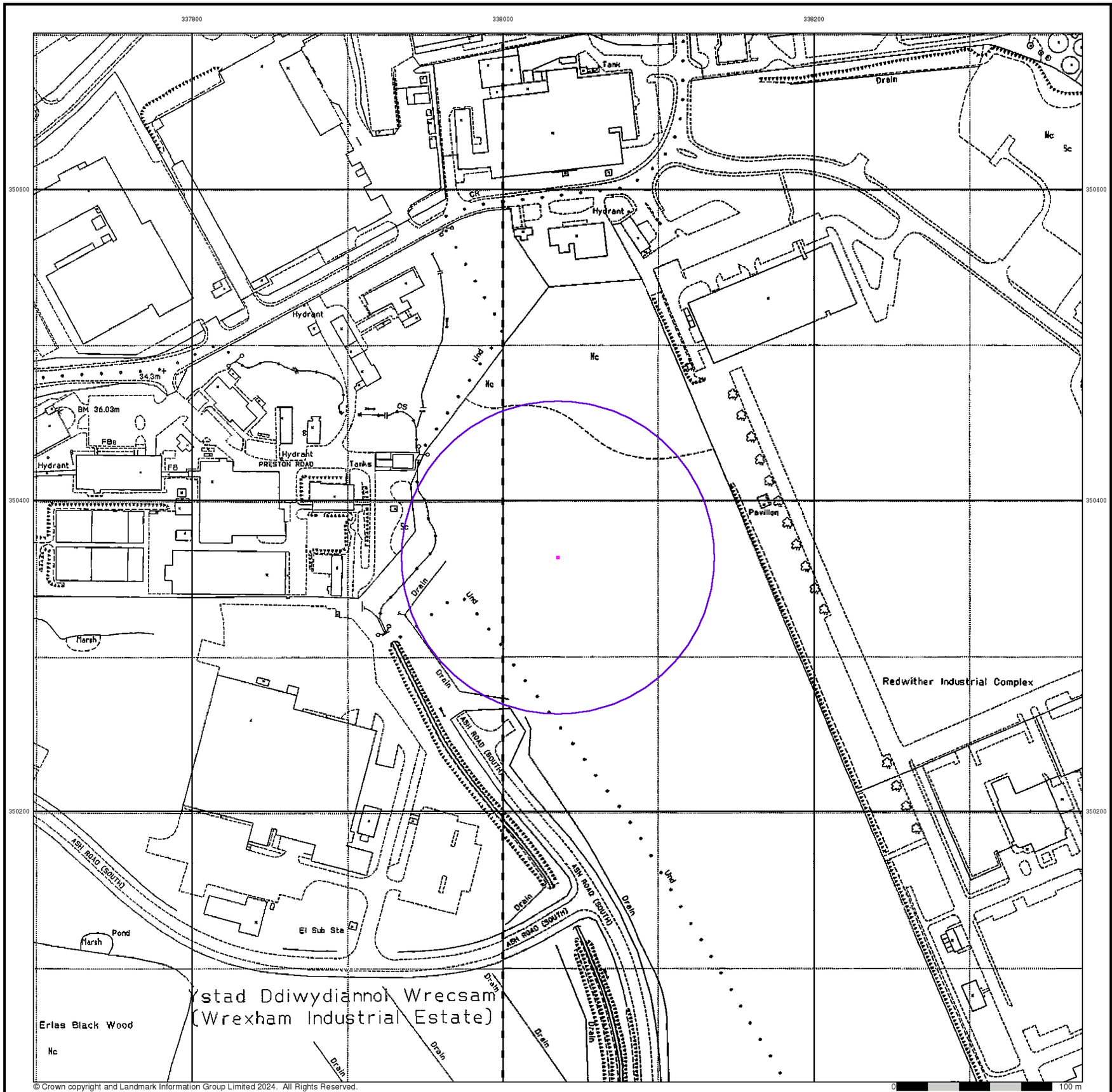
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
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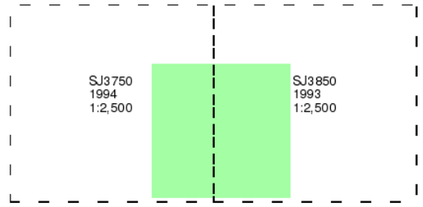
Large-Scale National Grid Data

Published 1993 - 1994

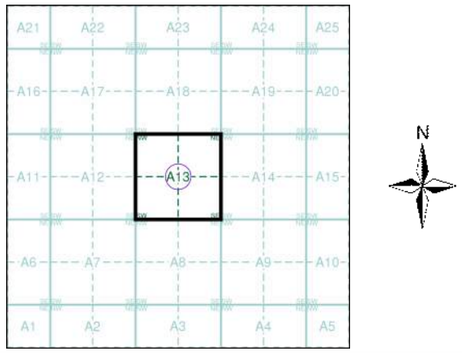
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



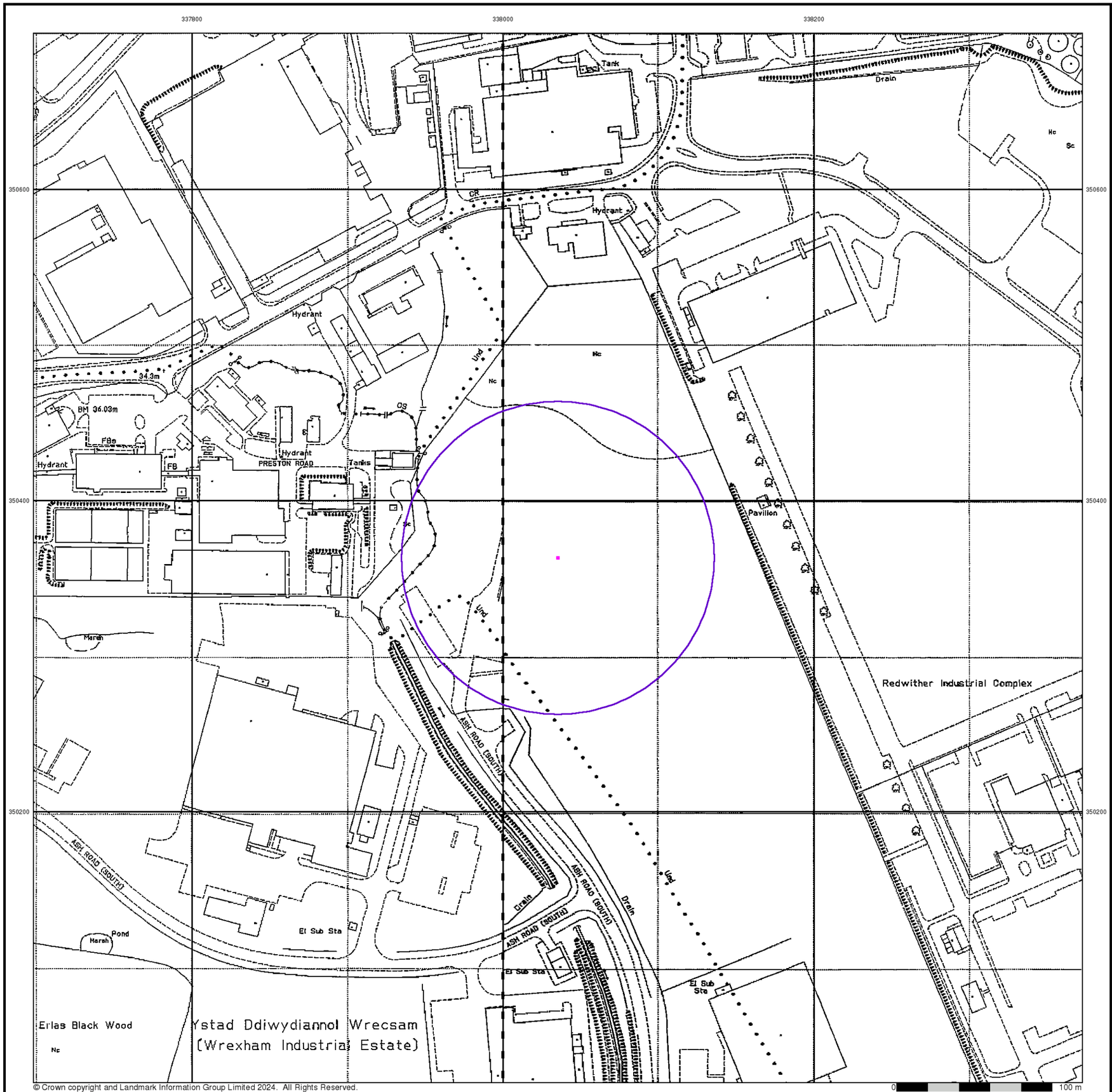
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
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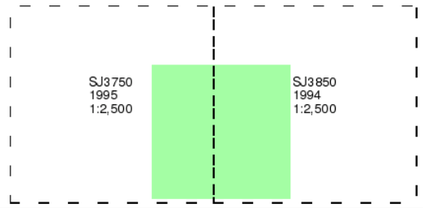
Large-Scale National Grid Data

Published 1994 - 1995

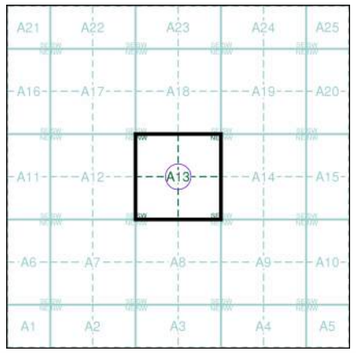
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



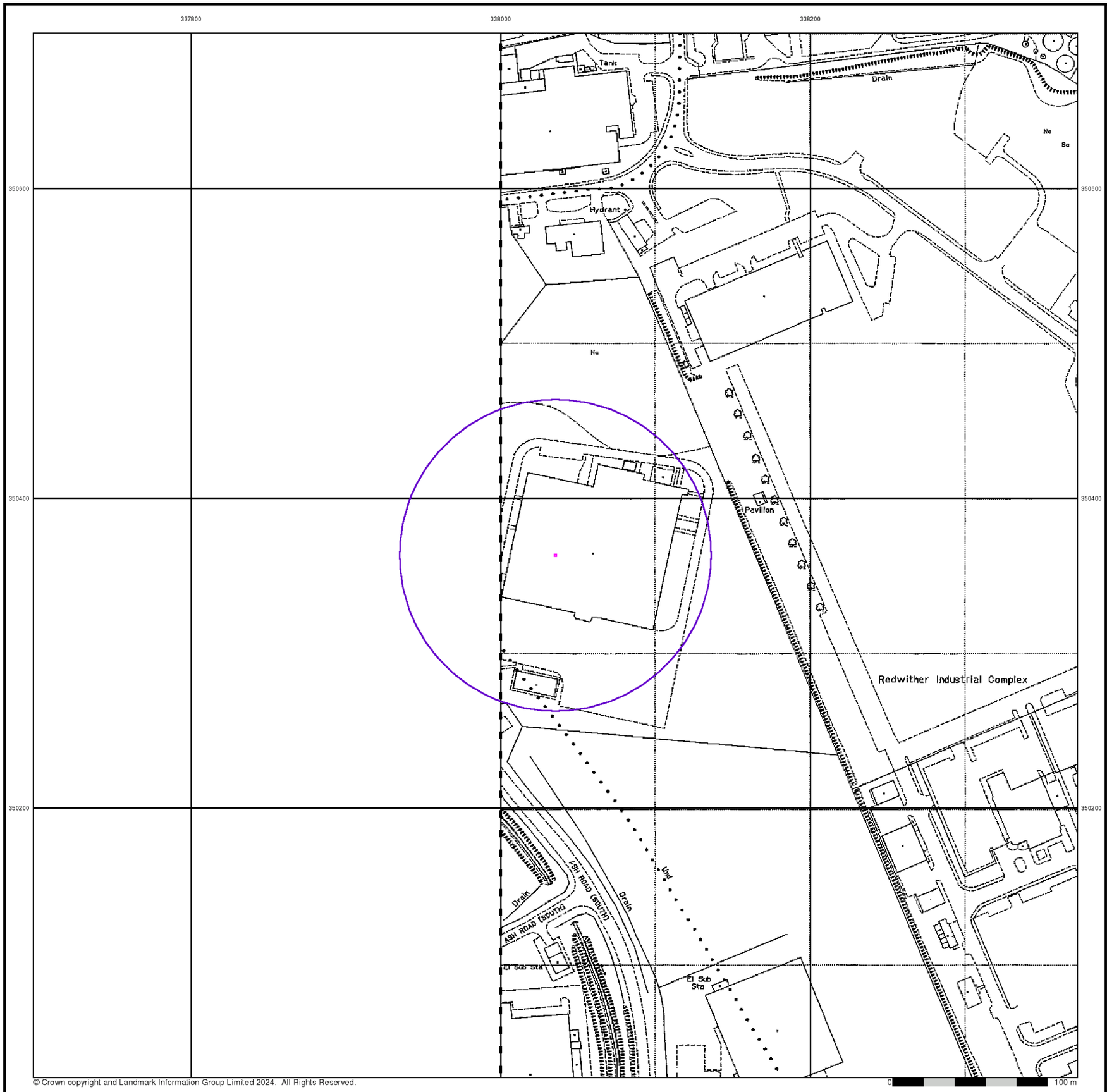
Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
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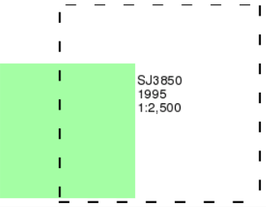
Large-Scale National Grid Data

Published 1995

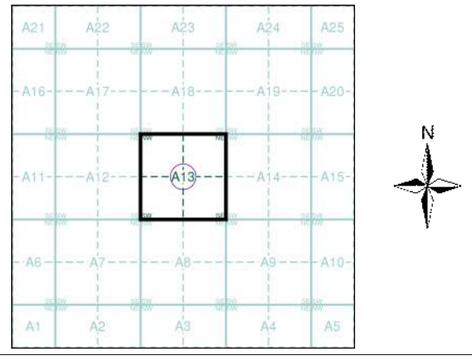
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

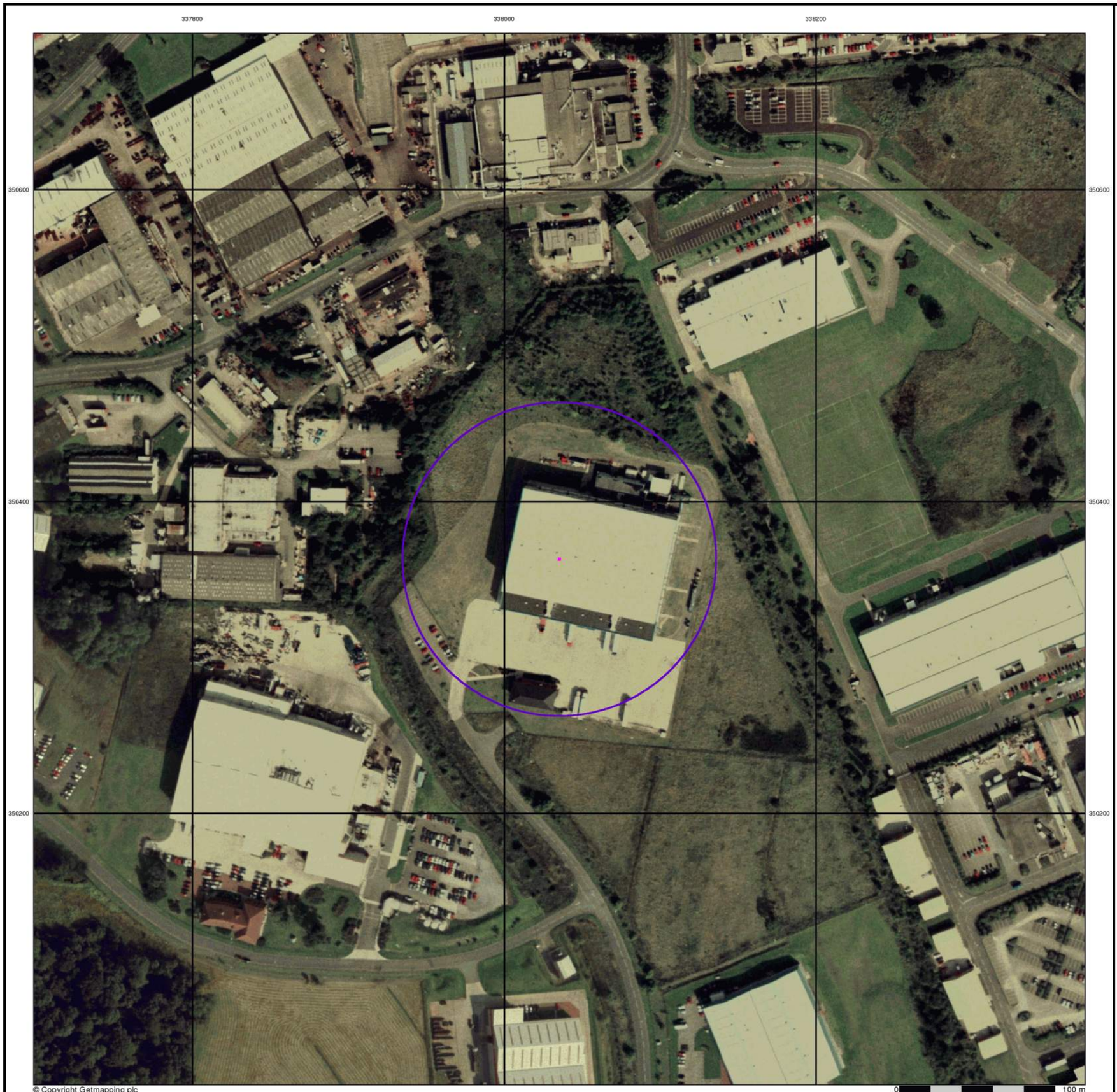
Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
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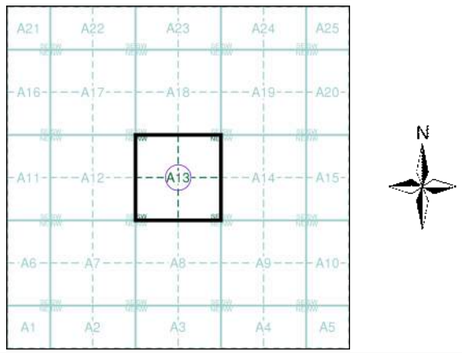


Historical Aerial Photography

Published 2003

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

Historical Aerial Photography - Segment A13



Order Details

Order Number:	330630143_1_1
Customer Ref:	23284
National Grid Reference:	338040, 350360
Slice:	A
Site Area (Ha):	0.01
Search Buffer (m):	100

Site Details

Norish Foodcare, Ash Road South, Wrexham Industrial Estate, WREXHAM, LL13 9UG

Appendix C – Exploratory Hole Logs

CABLE PERCUSSIVE EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

Exploratory Hole Progress by Time			
Date and Time	Depth	Casing Depth	Water Depth
15/01/2024 10:45	0.00	0.00	
15/01/2024 11:04	1.20	0.00	Dry
15/01/2024 16:30	10.50	10.50	Wet
16/01/2024 09:14	10.50	10.50	6.72
16/01/2024 16:06	22.50	22.50	1.50
17/01/2024 10:15	25.00	25.00	Dry

Exploratory Hole BH101

Sheet 1 of 3

Project	Sakura, Wrexham			**Equipment**	Dando 2000
Client	Thermotraffic			**Method**	CP/IP
Project No	G24001	**Level**	32.18 mAOD	**Inclination**	90 degrees
Easting	337997.20	**Northing**	350418.90	**SPT Hammer Serial Number**	AR5755
Termination Reason	Terminated at scheduled depth			**SPT Hammer Energy Ratio**	65 %

Scale	1:50
Drilled	LM & LH
Logged	FT
Checked	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Description
1 ES	0.00 - 0.10	Topsoil	0.00	32.06	Soft brown slightly silty sandy CLAY with rare subangular fine gravel of red brick and sandstone. Rootlets (1-2mm diameter) present to 0.1m depth.
	0.10	PID: 0.0ppmv	(0.13)		(TOPSOIL)
4 B	0.40 - 1.20		0.13		Firm yellowish brown to reddish brown slightly sandy CLAY with rare gravel. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick and rare ceramic fragments.
2 ES	0.60 - 0.70	PID: 0.0ppmv			(MADE GROUND)
	0.60		(1.67)		
3 ES	1.20 - 1.60	PID: 0.2ppmv			
5 B	1.20 - 1.65				
6 D	1.20 - 1.65				
	1.20		1.80	30.38	
9 UT	2.00 - 2.45	Blows: 30 Rec: 80% Dia: 100mm Water: Dry			Firm to stiff reddish brown mottled grey thinly laminated sandy CLAY. (DEVENSIAN TILL) *1.80m - 4.00m Sandy layers grey in colour. Recovered sample splits along sandy laminations.*
7 D	2.50				
11 B	3.00 - 3.45	SPT(S)			
12 ES	3.00 - 3.45	N=15 (2,2/3,4,4,4)			
8 D	3.00 - 3.45	Casing: 2.90 Water: Dry			
	3.00	PID: 0.0ppmv			
	3.00		(4.20)		
14 UT	4.00 - 4.45	Blows: 20 Rec: 100% Dia: 100mm Water: Dry			*4.00m - 5.50m Sandy CLAY with lenses of sand*
10 D	4.50				
13 D	5.00 - 5.45	SPT(S)			*5.00m - 7.00m Recovered sample is highly saturated.*
17 B	5.00 - 5.45	N=10 (1,2/2,2,2,4)			
	5.00	Casing: 4.90 Water: Dry			
15 D	6.00 - 6.45	SPT(S)	6.00	26.18	Firm to stiff reddish to greyish brown sandy to very sandy CLAY. Sand is fine. (DEVENSIAN TILL)
18 B	6.00 - 6.45	N=11 (1,1/2,3,3,3)			
	6.00	Casing: 5.90 Water: Dry			
16 UT	7.50 - 7.95	Blows: 22 Rec: 70% Dia: 100mm Water:			*7.50m - 9.00m Rare medium to coarse subangular gravel of sandstone.*
19 D	8.00				
20 D	9.00 - 9.45	SPT(S)			
21 B	9.00 - 9.45	N=6 (1,2/1,2,1,2)			
	9.00	Casing: 8.90 Water: Dry			
			(8.00)		

Continued on next Sheet

Scale: 0.50, 1.00, 1.50, 2.00, 2.50, 3.00, 3.50, 4.00, 4.50, 5.00, 5.50, 6.00, 6.50, 7.00, 7.50, 8.00, 8.50, 9.00, 9.50, 10.00

Backfill

Chiseling

Depth Top	Depth Base	Duration (hh:mm)	Tool

Hole Diameter

Depth Base	Diameter
10.50	200mm
25.00	150mm

Casing Diameter

Depth Base	Diameter
10.50	200mm
25.00	150mm

Water Added

Depth Top	Depth Base

Water Strikes

Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
15/01/2024 13:52	5.00	5.20		4.80	20mins	
18/01/2024 11:09	10.50	10.50		10.50	20mins	
18/01/2024 11:10	21.00	21.20		1.50	20mins	

Remarks

Hand excavated inspection pit from GL to 1.20m depth. Cable Percussive drilling from 1.20m to 25.00m depth.

CABLE PERCUSSIVE EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

Exploratory Hole Progress by Time			
Date and Time	Depth	Casing Depth	Water Depth
15/01/2024 10:45	0.00	0.00	
15/01/2024 11:04	1.20	0.00	Dry
15/01/2024 16:30	10.50	10.50	Wet
16/01/2024 09:14	10.50	10.50	6.72
16/01/2024 16:06	22.50	22.50	1.50
17/01/2024 10:15	25.00	25.00	Dry

Exploratory Hole BH101

Sheet 2 of 3

Project	Sakura, Wrexham		**Equipment**	Dando 2000	
Client	Thermotraffic		**Method**	CP/IP	
Project No	G24001	**Level** 32.18 mAOD	**Inclination**	90 degrees	
Easting	337997.20	**Northing** 350418.90	**SPT Hammer Serial Number**	AR5755	
Termination Reason	Terminated at scheduled depth		**SPT Hammer Energy Ratio**	65 %	

Scale	1:50
Drilled	LM & LH
Logged	FT
Checked	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Description
22 B 23 D	10.50 - 10.95 10.50 - 10.95 10.50	SPT(S) N=13 (1,2/3,3,3,4) Casing: 10.40 Water: Dry			Firm to stiff reddish to greyish brown sandy to very sandy CLAY. Sand is fine. (DEVENSIAN TILL)
24 B 45 UT	12.00 - 12.45 12.00 - 12.45	Blows: 15 Rec: 0% Dia: 100mm Water: 10.55			
25 D	12.50				
26 D 27 B	13.50 - 13.95 13.50 - 13.95 13.50	SPT(S) N=18 (2,1/2,3,6,7) Casing: 13.40 Water: 10.50			*13.50m - 13.95m Very sandy.*
			14.00	18.18	Loose reddish brown slightly clayey fine SAND. (DEVENSIAN TILL) *14.00m - 17.00m Sample recovered is highly saturated, liquid behaviour.*
28 B 29 D	15.00 - 15.45 15.00 - 15.45 15.00	SPT(S) N=6 (1,2/1,2,1,2) Casing: 14.90 Water: 10.50			
			(3.30)		
30 D 31 B	16.50 - 16.95 16.50 - 16.95 16.50	SPT(S) N=8 (1,2/2,2,2,2) Casing: 16.40 Water: 10.50			
32 D	17.30		17.30	14.88	Soft to firm reddish brown to brown very sandy CLAY. Sand is fine. (DEVENSIAN TILL)
33 UT	18.00 - 18.45	Blows: 10 Rec: 70% Dia: 100mm Water: 9.90			
34 D	18.50				*18.50m - 19.95m Slightly silty sandy CLAY.*
35 D 36 B	19.50 - 19.95 19.50 - 19.95 19.50	SPT(S) N=13 (2,3/2,3,4,4) Casing: 19.40 Water: 8.00	(4.90)		*19.50m - 22.50m Sand portion of sample recovered is highly saturated, liquid behaviour, clasts of clay within recovery.*

Continued on next Sheet

Chiseling

Depth Top	Depth Base	Duration (hh:mm)	Tool

Hole Diameter

Depth Base	Diameter
10.50	200mm
25.00	150mm

Casing Diameter

Depth Base	Diameter
10.50	200mm
25.00	150mm

Water Added

Depth Top	Depth Base

Water Strikes

Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
15/01/2024 13:52	5.00	5.20		4.80	20mins	
18/01/2024 11:09	10.50	10.50		10.50	20mins	
18/01/2024 11:10	21.00	21.20		1.50	20mins	

Remarks
Hand excavated inspection pit from GL to 1.20m depth. Cable Percussive drilling from 1.20m to 25.00m depth.

CABLE PERCUSSIVE EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

Project	Sakura, Wrexham		**Equipment**	Dando 2000	
Client	Thermotraffic		**Method**	CP/IP	
Project No	G24001	**Level** 32.18 mAOD	**Inclination**	90 degrees	
Easting	337997.20	**Northing** 350418.90	**SPT Hammer Serial Number**	AR5755	
Termination Reason	Terminated at scheduled depth		**SPT Hammer Energy Ratio**	65 %	

Exploratory Hole Progress by Time

Date and Time	Depth	Casing Depth	Water Depth
15/01/2024 10:45	0.00	0.00	
15/01/2024 11:04	1.20	0.00	Dry
15/01/2024 16:30	10.50	10.50	Wet
16/01/2024 09:14	10.50	10.50	6.72
16/01/2024 16:06	22.50	22.50	1.50
17/01/2024 10:15	25.00	25.00	Dry

Exploratory Hole

BH101

Sheet 3 of 3

Scale	1:50
Drilled	LM & LH
Logged	FT
Checked	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
						Soft to firm reddish brown to brown very sandy CLAY. Sand is fine. (DEVENSIAN TILL)		
37 B 46 UT 38 D	21.00 - 21.45 21.00 - 21.45 21.20	Blows: 25 Rec: 0% Dia: 100mm Water: 8.00				*21.20m - 22.50m Very sandy.*	20.50 21.00 21.50	
41 D	22.20		22.20	9.98			22.00	
						Firm to stiff reddish brown slightly sandy CLAY. Sand is fine. (DEVENSIAN TILL)		
39 B 42 D	22.50 - 22.95 22.50 - 22.95 22.50	SPT(S) N=18 (2,3/3,4,5,6) Casing: 22.40 Water: 4.50					22.50 23.00	
			(2.80)				23.50	
44 UT	24.00 - 24.45	Blows: 12 Rec: 100% Dia: 100mm Water: Dry					24.00	
43 D	24.50						24.50	
40 D	25.00 25.00	SPT(S) N=10 (1,2/2,3,2,3) Casing: 24.90 Water: Dry		7.18		End of Exploratory Hole at 25.00m	25.00	
							25.50 26.00 26.50 27.00 27.50 28.00 28.50 29.00 29.50 30.00	

Chiseling

Depth Top	Depth Base	Duration (hh:mm)	Tool

Hole Diameter

Depth Base	Diameter
10.50	200mm
25.00	150mm

Casing Diameter

Depth Base	Diameter
10.50	200mm
25.00	150mm

Water Added

Depth Top	Depth Base

Water Strikes

Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
15/01/2024 13:52	5.00	5.20		4.80	20mins	
18/01/2024 11:09	10.50	10.50		10.50	20mins	
18/01/2024 11:10	21.00	21.20		1.50	20mins	

Remarks

Hand excavated inspection pit from GL to 1.20m depth. Cable Percussive drilling from 1.20m to 25.00m depth.

CABLE PERCUSSIVE EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

Exploratory Hole Progress by Time			
Date and Time	Depth	Casing Depth	Water Depth
17/01/2024 15:00	0.00		Dry
17/01/2024 16:00	1.20		Wet
18/01/2024 16:15	12.50	12.50	Wet
19/01/2024 13:40	20.00	20.00	

Exploratory Hole: BH102

Sheet 1 of 2

Project	Sakura, Wrexham		**Equipment**	Dando 2000	
Client	Thermotraffic		**Method**	CP/IP	
Project No	G24001	**Level** 31.47 mAOD	**Inclination**	90 degrees	
Easting	337981.90	**Northing** 350356.80	**SPT Hammer Serial Number**	AR5755	
Termination Reason	Terminated at maximum achievable depth within shift allowance.		**SPT Hammer Energy Ratio**	65 %	

Scale	1:50
Drilled	LM & LH
Logged	FT
Checked	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Description
1 B	0.00 - 0.30	PID: 0.0ppmv	0.00		Soft brown slightly silty sandy CLAY with rare subrounded to subangular fine to medium gravel of red brick and sandstone. Rootlets (1-2mm diameter) present to 0.1m depth.
2 ES	0.00 - 0.30		(0.30)		
3 B	0.10		0.30	31.17	(TOPSOIL)
4 ES	0.30 - 0.40		(0.10)	31.07	Greyish brown slightly sandy clayey GRAVEL of fine to coarse subrounded to subangular sandstone, red brick fragments and rare concrete.
5 B	0.30 - 0.40	PID: 0.0ppmv	0.40		(MADE GROUND)
6 ES	0.40 - 1.20				Soft to firm yellowish brown to reddish brown slightly sandy gravelly CLAY. Gravel is fine to coarse subrounded to angular of sandstone, mudstone, red brick and rare concrete and ceramic fragments.
	0.50 - 0.70				(MADE GROUND)
	0.50				
7 B	1.20 - 1.65	SPT(S)			
8 D	1.20 - 1.65	N=15 (2,3/3,3,4,5)			
	1.20	Casing: 0.00 Water: Dry			
			(2.80)		
24 UT	2.00 - 2.45	Blows: 35 Rec: 40% Dia: 100mm Water: Dry			
9 D	2.50				
10 D	3.00 - 3.45	SPT(S)			
11 B	3.00 - 3.45	N=15 (3,3/3,4,4,4)			
12 ES	3.00	Casing: 2.90 Water: Dry	3.20	28.27	Soft to firm yellowish brown mottled grey slightly silty sandy CLAY with rare coarse subangular gravel of sandstone.
13 D	3.20 - 3.40	PID: 0.0ppmv			(DEVENSIAN TILL)
	3.20		(0.50)		*3.20m - 3.70m Sample recovered highly saturated, sand is loose.*
	3.30				
14 D	3.70		3.70	27.77	Soft to firm yellowish brown to brown slightly to very sandy CLAY with rare subrounded to rounded fine to medium gravel.
25 UT	4.00 - 4.45	Blows: 30 Rec: 100% Dia: 100mm Water: Dry			(DEVENSIAN TILL)
15 D	4.50				
16 D	5.00 - 5.45	SPT(S)			
17 B	5.00 - 5.45	N=15 (1,2/3,4,4,4)			
	5.00	Casing: 4.90 Water: Dry			
18 B	6.00 - 6.45	Blows: 20 Rec: 0%			
39 UT	6.00 - 6.45	Dia: 100mm Water: Dry			
19 B	7.50 - 7.95				
20 D	7.50 - 7.95				
			(8.30)		
26 UT	9.00 - 9.45	Blows: 15 Rec: 100% Dia: 100mm Water: Dry			
21 D	9.50				

Continued on next Sheet

Scale: 0.50, 1.00, 1.50, 2.00, 2.50, 3.00, 3.50, 4.00, 4.50, 5.00, 5.50, 6.00, 6.50, 7.00, 7.50, 8.00, 8.50, 9.00, 9.50, 10.00

Backfill

Chiseling

Depth Top	Depth Base	Duration (hh:mm)	Tool

Hole Diameter

Depth Base	Diameter
3.00	200mm
20.00	150mm

Casing Diameter

Depth Base	Diameter
3.00	200mm
20.00	150mm

Water Added

Depth Top	Depth Base

Water Strikes

Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
18/01/2024 10:30	2.90	3.50		2.50	20mins	
18/01/2024 15:30	13.50	13.50		13.50	20mins	
19/01/2024 13:40	19.40	20.00		18.00	20mins	

Remarks

Hand excavated inspection pit from GL to 1.20m depth. Cable Percussive drilling from 1.20m to 20.00m depth.

CABLE PERCUSSIVE EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

Exploratory Hole Progress by Time			
Date and Time	Depth	Casing Depth	Water Depth
17/01/2024 15:00	0.00		Dry
17/01/2024 16:00	1.20		Wet
18/01/2024 16:15	12.50	12.50	Wet
19/01/2024 13:40	20.00	20.00	

Exploratory Hole BH102

Sheet 2 of 2

Project	Sakura, Wrexham		**Equipment**	Dando 2000	
Client	Thermotraffic		**Method**	CP/IP	
Project No	G24001	**Level** 31.47 mAOD	**Inclination**	90 degrees	
Easting	337981.90	**Northing** 350356.80	**SPT Hammer Serial Number**	AR5755	
Termination Reason	Terminated at maximum achievable depth within shift allowance.		**SPT Hammer Energy Ratio**	65 %	

Scale	1:50
Drilled	LM & LH
Logged	FT
Checked	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Description	Scale	Backfill
22 D 23 B	10.50 - 10.95 10.50 - 10.95 10.50	SPT(S) N=8 (1,2/1,2,2,3) Casing: 10.40 Water: Dry			Soft to firm yellowish brown to brown slightly to very sandy CLAY with rare subrounded to rounded fine to medium gravel. (DEVENSIAN TILL)	10.50 11.00 11.50	
27 UT	12.00 - 12.45	Blows: 12 Rec: 100% Dia: 100mm Water: Dry	12.00	19.47	Medium dense reddish brown slightly clayey fine SAND. (DEVENSIAN TILL)	12.00	
30 D	12.50					12.50	
29 D	13.00 13.00	SPT(S) N=18 (3,3/3,4,5,6) Casing: 12.90 Water: Dry				13.00	
28 D 35 B	13.50 - 13.95 13.50 - 13.95					13.50	
			(5.20)			14.00 14.50	
31 D 36 B	15.00 - 15.45 15.00 - 15.45 15.00	SPT(S) N=22 (1,3/4,6,6,6) Casing: 14.90 Water: 8.00				15.00 15.50	
37 B 40 UT	16.50 - 16.95 16.50 - 16.95	Blows: 15 Rec: 0% Dia: 100mm Water: 8.00				16.00 16.50	
32 D	17.20		17.20	14.27	Firm to stiff reddish brown to brown slightly silty, sandy CLAY. Sand is fine. (DEVENSIAN TILL)	17.00 17.50	
33 D	18.00 - 18.45 18.00	SPT(S) N=21 (3,3/4,5,6,6) Casing: 17.90 Water: Dry				18.00	
			(2.80)			18.50 19.00	
38 UT	19.50 - 19.95	Blows: 15 Rec: 90% Dia: 100mm Water: Dry				19.50	
34 D	20.00			11.47	End of Exploratory Hole at 20.00m	20.00	

Chiseling

Depth Top	Depth Base	Duration (hh:mm)	Tool

Hole Diameter

Depth Base	Diameter
3.00	200mm
20.00	150mm

Casing Diameter

Depth Base	Diameter
3.00	200mm
20.00	150mm

Water Added

Depth Top	Depth Base

Water Strikes

Date and Time	Casing	Strike	Sealed	Rising to	Time	Remarks
18/01/2024 10:30	2.90	3.50		2.50	20mins	
18/01/2024 15:30	13.50	13.50		13.50	20mins	
19/01/2024 13:40	19.40	20.00		18.00	20mins	

Remarks
Hand excavated inspection pit from GL to 1.20m depth. Cable Percussive drilling from 1.20m to 20.00m depth.

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TRIAL PIT EXPLORATORY HOLE LOG

Exploratory Hole Progress by Time			Exploratory Hole
Date and Time	Depth	Water Depth	HP101
16/01/2024 10:15	0.00		
16/01/2024 10:45	0.43	Dry	

Project	Sakura, Wrexham			**Equipment**	Insulated hand tools	Sheet 1 of 1	
Client	Thermotraffic			**Method**	IP	**Scale**	1:20
Project No	G24001	**Level**	32.11 mAOD	**Orientation**	90 degrees		
Easting	338016.00	**Northing**	350406.00	**Length**	0.50	**Logged**	FT
Termination Reason	Base of foundation pad exposed			**Width**	0.40	**Checked**	AP

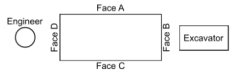
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description
			0.00			Soft, brown slightly silty sandy CLAY with rare gravel of red brick and concrete. (TOPSOIL)
			(0.15)			*0.00m - 0.40m Concrete foundation pad (Face B of IP)*
			0.15	31.96		Soft to firm yellowish brown to reddish brown slightly sandy gravelly CLAY. Gravel is fine to coarse subrounded to angular of sandstone, mudstone, red brick, concrete and rare ceramic fragments. (MADE GROUND)
1 ES	0.20 - 0.40 0.20	PID: 0.0ppmv	(0.25)			
			0.40	31.71		Greyish brown slightly clayey slightly sandy fine to medium subrounded to angular GRAVEL of various lithologies. (MADE GROUND (type 1.sub base))
			(0.03)	31.68		End of Exploratory Hole at 0.43m

Scale: 0.50, 1.00, 1.50, 2.00, 2.50, 3.00, 3.50, 4.00

Backfill

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
hand excavated foundation inspection pit from GL to 0.43m.

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole
HP101

Project	Sakura, Wrexham	**Easting**	338016.00	**Equipment**	Insulated hand tools	Sheet 1 of 1
Client	Thermotraffic	**Northing**	350406.00	**Method**	IP	
Project No	G24001	**Level**	32.11 mAOD	**Termination Reason**	Base of foundation pad exposed	



HP101 Detail



HP101

TRIAL PIT EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

Exploratory Hole Progress by Time		
Date and Time	Depth	Water Depth
16/01/2024 10:30	0.00	
16/01/2024 10:55	0.26	Dry

Exploratory Hole HP102

Sheet 1 of 1

Project	Sakura, Wrexham		**Equipment**	Insulated hand tools	
Client	Thermotraffic		**Method**	IP	
Project No	G24001	**Level** 31.56 mAOD	**Orientation**	90 degrees	
Easting	338006.00	**Northing** 350359.00	**Length**	0.50	
Termination Reason	Base of foundation pad exposed		**Width**	0.40	

Scale 1:20 | **Logged** FT | **Checked** AP

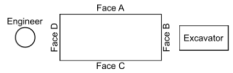
Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description
			0.00 (0.16)			Soft brown slightly silty sandy CLAY with rare subrounded to subangular fine to medium gravel of sandstone and red brick fragments. (TOPSOIL)
1 ES	0.16 - 0.26 0.20	PID: 0.0ppmv	0.16 (0.10)	31.40 31.30		*0.00m - 0.11m Concrete foundation pad (Face B of IP)* Yellowish brown to reddish brown and grey slightly sandy clayey fine to coarse subrounded to angular GRAVEL of mudstone, sandstone, concrete and rare red brick fragments. (MADE GROUND)
						End of Exploratory Hole at 0.26m

Scale: 0.50, 1.00, 1.50, 2.00, 2.50, 3.00, 3.50, 4.00

Backfill

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
hand excavated foundation inspection pit from GL to 0.26m.

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole HP102
Project	Sakura, Wrexham	**Easting**	338006.00	**Equipment**	Insulated hand tools	Sheet 1 of 1
Client	Thermotraffic	**Northing**	350359.00	**Method**	IP	
Project No	G24001	**Level**	31.56 mAOD	**Termination Reason**	Base of foundation pad exposed	



HP102 Detail



HP102

TRIAL PIT EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

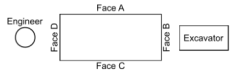
Exploratory Hole Progress by Time			Exploratory Hole
Date and Time	Depth	Water Depth	HP103
18/01/2024 15:00	0.00	Dry	
18/01/2024 15:20	0.70		Sheet 1 of 1

Project	Sakura, Wrexham			**Equipment**	Insulated hand tools	**Scale**	1:20
Client	Thermotraffic			**Method**	IP		
Project No	G24001	**Level**	32.31 mAOD	**Orientation**	90 degrees		
Easting	338078.60	**Northing**	350436.60	**Length**	0.30	**Logged**	FT
Termination Reason	Made ground encountered			**Width**	0.30	**Checked**	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
			0.00					
			(0.20)			Brown slightly silty sandy CLAY with rare subangular fine gravel of red brick and sandstone. Rootlets (1-2mm diameter) present to 0.1m depth. (TOPSOIL)		
			0.20	32.11				
1 ES	0.50 - 0.70		(0.50)			Soft to firm yellowish brown to reddish brown slightly sandy CLAY with medium gravel content and one cobble. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick fragments and rare concrete. Cobble is subangular of concrete with aggregate. (MADE GROUND)	0.50	
				31.61		End of Exploratory Hole at 0.70m	1.00	
							1.50	
							2.00	
							2.50	
							3.00	
							3.50	
							4.00	

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
Hand excavated trial pit within 'stockpile' from surface to 0.70m depth. .

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

HP103

Project	Sakura, Wrexham	**Easting**	338078.60	**Equipment**	Insulated hand tools	Sheet 1 of 1
Client	Thermotraffic	**Northing**	350436.60	**Method**	IP	
Project No	G24001	**Level**	32.31 mAOD	**Termination Reason**	Made ground encountered	

TRIAL PIT EXPLORATORY HOLE LOG

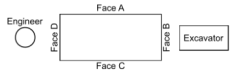
Exploratory Hole Progress by Time			Exploratory Hole
Date and Time	Depth	Water Depth	HP104
18/01/2024 15:40	0.00	Dry	
18/01/2024 15:50	0.50		

Project	Sakura, Wrexham			**Equipment**	Insulated hand tools	Sheet 1 of 1	
Client	Thermotraffic			**Method**	IP	**Scale**	1:20
Project No	G24001	**Level**	32.43 mAOD	**Orientation**	90 degrees		
Easting	338110.60	**Northing**	350429.60	**Length**	0.30	**Logged**	FT
Termination Reason	Made ground encountered			**Width**	0.30	**Checked**	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
			0.00					
			(0.10)	32.33		Brown slightly silty sandy CLAY with infrequent gravel of red brick, fragments, sandstone and concrete. Rootlets (1-2mm diameter) present to 0.1m depth. (TOPSOIL)		
			0.10					
1 ES	0.30 - 0.50		(0.40)			Soft yellowish brown to dark brown slightly sandy CLAY with medium gravel content. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick fragments and rare concrete. Rootlets (1-2mm diameter) to 0.3m BGL. (MADE GROUND)		
				31.93		End of Exploratory Hole at 0.50m	0.50	
							1.00	
							1.50	
							2.00	
							2.50	
							3.00	
							3.50	
							4.00	

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
Hand excavated trial pit within 'stockpile' from surface to 0.50m depth. .

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole

HP104

Project	Sakura, Wrexham	**Easting**	338110.60	**Equipment**	Insulated hand tools	Sheet 1 of 1
Client	Thermotraffic	**Northing**	350429.60	**Method**	IP	
Project No	G24001	**Level**	32.43 mAOD	**Termination Reason**	Made ground encountered	

TRIAL PIT EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

Exploratory Hole Progress by Time		
Date and Time	Depth	Water Depth
17/01/2024 10:45	0.00	
17/01/2024 11:00	1.80	Dry

Exploratory Hole TP101

Sheet 1 of 1

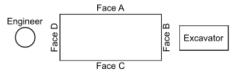
Project	Sakura, Wrexham		**Equipment**	JCB 3cx	
Client	Thermotraffic		**Method**	TP	
Project No	G24001	**Level** 31.01 mAOD	**Orientation**		
Easting	337988.70	**Northing** 350277.90	**Length**	2.00	
Termination Reason	Service encountered (concrete pipe).		**Width**	0.50	

Scale 1:20 **Logged** FT **Checked** AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
1 ES	0.00 - 0.10 0.05	PID: 0.0ppmv	0.00 (0.20) 0.20	30.81		Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and infrequent ceramic fragments. (TOPSOIL)		
2 B	0.50 - 0.70					Firm to stiff yellowish brown to reddish brown slightly sandy gravelly CLAY with low cobble content. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick, concrete and ceramic fragments. Cobbles are subrounded to subangular of mudstone and clay pipe/pot fragments. (MADE GROUND)	0.50	
3 B 4 ES	1.00 - 1.20 1.00 - 1.20 1.00	PID: 0.0ppmv	(1.60)				1.00	
5 B	1.50 - 1.70					*1.50m - 1.60m Type 1 sub base material recovered.* *1.60m - 1.75m slightly gravelly CLAY.*	1.50	
				29.21		*1.79m - 1.80m Rounded concrete feature located, assumed service pipe.*		
						End of Exploratory Hole at 1.80m	2.00	
							2.50	
							3.00	
							3.50	
							4.00	

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
Machine excavated trial pit from GL to 1.80m

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS					Exploratory Hole TP101
Project	Sakura, Wrexham	**Easting**	337988.70	**Equipment**	JCB 3cx	Sheet 1 of 5
Client	Thermotraffic	**Northing**	350277.90	**Method**	TP	
Project No	G24001	**Level**	31.01 mAOD	**Termination Reason**	Service encountered (concrete pipe).	



Concrete utility at base 1



TP101 B

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP101
Project	Sakura, Wrexham	**Easting**	337988.70	**Equipment**	JCB 3cx	Sheet 2 of 5
Client	Thermotraffic	**Northing**	350277.90	**Method**	TP	
Project No	G24001	**Level**	31.01 mAOD	**Termination Reason**	Service encountered (concrete pipe).	



TP101 Face A close up



TP101 Face A

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS					Exploratory Hole TP101
Project	Sakura, Wrexham	**Easting**	337988.70	**Equipment**	JCB 3cx	Sheet 3 of 5
Client	Thermotraffic	**Northing**	350277.90	**Method**	TP	
Project No	G24001	**Level**	31.01 mAOD	**Termination Reason**	Service encountered (concrete pipe).	



TP101 Face B close up



TP101 Face C close up

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP101
Project	Sakura, Wrexham	**Easting**	337988.70	**Equipment**	JCB 3cx	Sheet 4 of 5
Client	Thermotraffic	**Northing**	350277.90	**Method**	TP	
Project No	G24001	**Level**	31.01 mAOD	**Termination Reason**	Service encountered (concrete pipe).	



TP101 Face C



TP101 Face D

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP101
Project	Sakura, Wrexham	**Easting**	337988.70	**Equipment**	JCB 3cx	Sheet 5 of 5
Client	Thermotraffic	**Northing**	350277.90	**Method**	TP	
Project No	G24001	**Level**	31.01 mAOD	**Termination Reason**	Service encountered (concrete pipe).	



TP101 spoil

TRIAL PIT EXPLORATORY HOLE LOG

Exploratory Hole Progress by Time		
Date and Time	Depth	Water Depth
17/01/2024 11:30	0.00	
17/01/2024 11:50	2.20	Dry

Exploratory Hole: TP101A

Sheet 1 of 1

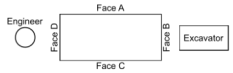
Project	Sakura, Wrexham		**Equipment**	JCB 3cx	
Client	Thermotraffic		**Method**	TP	
Project No	G24001	**Level** 31.29 mAOD	**Orientation**	90 degrees	
Easting	337992.30	**Northing** 350283.10	**Length**	2.00	
Termination Reason	Potential service encountered (concrete pipe).		**Width**	0.50	

Scale 1:20 | **Logged** FT | **Checked** AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
			0.00			Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and infrequent ceramic fragments. (TOPSOIL)		
			(0.40)					
			0.40	30.89		Firm to stiff yellowish brown to reddish brown slightly sandy gravelly CLAY with low cobble content. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick, concrete, glass and ceramic fragments. Cobbles are subrounded to subangular of mudstone. (MADE GROUND)	0.50	
							1.00	
			(1.80)					
1 ES 2 B	1.50 - 1.60 1.50 - 2.00 1.50	PID: 0.0ppmv					1.50	
							2.00	
				29.09		End of Exploratory Hole at 2.20m		
							2.50	
							3.00	
							3.50	
							4.00	

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
Machine excavated trial pit from GL to 2.20m

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP101A
Project	Sakura, Wrexham	**Easting**	337992.30	**Equipment**	JCB 3cx	Sheet 1 of 4
Client	Thermotraffic	**Northing**	350283.10	**Method**	TP	
Project No	G24001	**Level**	31.29 mAOD	**Termination Reason**	Potential service encountered (concrete pipe).	



Concrete utility at base



TP101A Face A

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS					Exploratory Hole TP101A
Project	Sakura, Wrexham	**Easting**	337992.30	**Equipment**	JCB 3cx	Sheet 2 of 4
Client	Thermotraffic	**Northing**	350283.10	**Method**	TP	
Project No	G24001	**Level**	31.29 mAOD	**Termination Reason**	Potential service encountered (concrete pipe).	



TP101A Face B (2)


TP101A Face C close up

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS					Exploratory Hole TP101A
Project	Sakura, Wrexham	**Easting**	337992.30	**Equipment**	JCB 3cx	Sheet 3 of 4
Client	Thermotraffic	**Northing**	350283.10	**Method**	TP	
Project No	G24001	**Level**	31.29 mAOD	**Termination Reason**	Potential service encountered (concrete pipe).	



TP101A Face C



TP101A Face D close up

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP101A
Project	Sakura, Wrexham	**Easting**	337992.30	**Equipment**	JCB 3cx	Sheet 4 of 4
Client	Thermotraffic	**Northing**	350283.10	**Method**	TP	
Project No	G24001	**Level**	31.29 mAOD	**Termination Reason**	Potential service encountered (concrete pipe).	



TP101A Face D



TP101A Spoil

TRIAL PIT EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

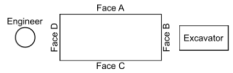
Exploratory Hole Progress by Time			Exploratory Hole
Date and Time	Depth	Water Depth	TP102
17/01/2024 08:55	0.00	Dry	
17/01/2024 09:29	3.50		Sheet 1 of 1

Project	Sakura, Wrexham			**Equipment**	JCB 3cx	**Scale**	1:20
Client	Thermotraffic			**Method**	TP		
Project No	G24001	**Level**	31.51 mAOD	**Orientation**	90 degrees		
Easting	338110.00	**Northing**	350321.40	**Length**	2.30	**Logged**	FT
Termination Reason	Terminated at scheduled depth			**Width**	0.50	**Checked**	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
1 ES	0.05 - 0.15	PID: 0.0ppmv	0.00			Soft light to dark brown slightly silty sandy CLAY with rare subangular fine to medium gravel of sandstone.		
	0.05		(0.30)			(TOPSOIL)		
			0.30	31.21		Firm to stiff reddish brown mottled grey CLAY with infrequent pockets of fine to medium sand.		
2 ES	0.40 - 0.60	PID: 0.0ppmv				(DEVENSIAN TILL)		
	0.40							
4 B	0.50 - 0.80	HV: P: 110kPa R: 16kPa				*0.50m - 1.00m Rare subrounded coarse gravel of sandstone.*	0.50	
8 D	0.50 - 0.80							
	0.50							
3 ES	1.00 - 1.20	HV: P: 106kPa R: 14kPa					1.00	
5 B	1.00 - 1.30	PID: 0.0ppmv						
9 D	1.00 - 1.30							
	1.00							
	1.00							
10 D	1.50 - 1.70	HV: P: 106kPa R: 14kPa					1.50	
6 B	1.50 - 1.70							
	1.50							
			(3.20)					
11 D	2.00 - 2.50	HV: P: 112kPa R: 20kPa					2.00	
	2.00							
	2.50	HV: P: 110kPa R: 18kPa					2.50	
						2.90m - 3.50m Rootlets (1-2mm diameter) observed.		
12 D	3.00 - 3.50	HV: P: 96kPa R: 16kPa					3.00	
7 B	3.00 - 3.50							
	3.00			28.01		End of Exploratory Hole at 3.50m	3.50	
							4.00	

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
Machine excavated trial pit from GL to 3.50m

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS					Exploratory Hole TP102
Project	Sakura, Wrexham	**Easting**	338110.00	**Equipment**	JCB 3cx	Sheet 1 of 3
Client	Thermotraffic	**Northing**	350321.40	**Method**	TP	
Project No	G24001	**Level**	31.51 mAOD	**Termination Reason**	Terminated at scheduled depth	



TP102 Face A



TP102 Face B

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP102
Project	Sakura, Wrexham	**Easting**	338110.00	**Equipment**	JCB 3cx	Sheet 2 of 3
Client	Thermotraffic	**Northing**	350321.40	**Method**	TP	
Project No	G24001	**Level**	31.51 mAOD	**Termination Reason**	Terminated at scheduled depth	



TP102 Face C



TP102 Face D

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP102
Project	Sakura, Wrexham	**Easting**	338110.00	**Equipment**	JCB 3cx	Sheet 3 of 3
Client	Thermotraffic	**Northing**	350321.40	**Method**	TP	
Project No	G24001	**Level**	31.51 mAOD	**Termination Reason**	Terminated at scheduled depth	



TP102 rootlets at 3.0m



TP102 Spoil

TRIAL PIT EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

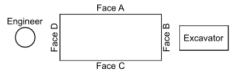
Exploratory Hole Progress by Time			Exploratory Hole
Date and Time	Depth	Water Depth	TP103
17/01/2024 14:30	0.00	Dry	
17/01/2024 14:47	0.70		Sheet 1 of 1

Project	Sakura, Wrexham			**Equipment**	JCB 3cx	**Scale**	1:20
Client	Thermotraffic			**Method**	TP		
Project No	G24001	**Level**	31.70 mAOD	**Orientation**	90 degrees		
Easting	337998.40	**Northing**	350386.00	**Length**	2.00	**Logged**	FT
Termination Reason	Water utility uncovered within pit.			**Width**	0.50	**Checked**	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
			0.00					
			(0.20)			Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and infrequent ceramic fragments. (TOPSOIL)		
			0.20	31.50				
1 ES	0.30 - 0.50					Firm becoming stiff yellowish brown to reddish brown slightly sandy CLAY with low gravel content. Gravel is fine to medium subrounded to angular of sandstone, mudstone, red brick and rare ceramic fragments. (MADE GROUND)		
2 B	0.50 - 0.70		(0.50)				0.50	
				31.00		*0.69m - 0.70m Blue water pipe (diameter unknown)*		
						End of Exploratory Hole at 0.70m	1.00	
							1.50	
							2.00	
							2.50	
							3.00	
							3.50	
							4.00	

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
Machine excavated trial pit from GL to 0.70m

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP103
Project	Sakura, Wrexham	**Easting**	337998.40	**Equipment**	JCB 3cx	Sheet 1 of 1
Client	Thermotraffic	**Northing**	350386.00	**Method**	TP	
Project No	G24001	**Level**	31.70 mAOD	**Termination Reason**	Water utility uncovered within pit.	



TP103 Pit



TP103 utility and pit

TRIAL PIT EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

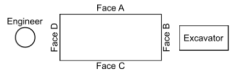
Exploratory Hole Progress by Time			Exploratory Hole
Date and Time	Depth	Water Depth	TP104
17/01/2024 12:48	0.00	Dry	
17/01/2024 13:43	3.50		Sheet 1 of 1

Project	Sakura, Wrexham			**Equipment**	JCB 3cx	**Scale**	1:20
Client	Thermotraffic			**Method**	TP		
Project No	G24001	**Level**	31.39 mAOD	**Orientation**	90 degrees		
Easting	337969.00	**Northing**	350326.80	**Length**	2.00	**Logged**	FT
Termination Reason	Terminated at scheduled depth			**Width**	0.50	**Checked**	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
			0.00			Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and mudstone. (TOPSOIL)		
			(0.25)					
			0.25	31.14		Soft to firm Yellowish brown to reddish brown and grey slightly sandy gravelly CLAY with low cobble content. Gravel is fine to coarse subrounded to angular of sandstone, mudstone, red brick, concrete and ceramic fragments. Cobbles are subrounded to subangular of red brick and concrete. (MADE GROUND)		
1 ES	0.50 - 0.70	HV: P: 30kPa R: 2kPa					0.50	
	0.50	PID: 0.0ppmv						
2 B	0.50							
	0.60 - 0.80							
3 B	1.00 - 1.30	HV: P: 96kPa R: 4kPa					1.00	
	1.00							
4 ES	1.50 - 1.60	PID: 0.0ppmv					1.50	
	1.50							
			(3.25)					
5 B	2.00 - 2.30	HV: P: 70kPa R: 22kPa					2.00	
	2.00							
							2.50	
6 B	3.00 - 3.20	HV: P: 104kPa R: 12kPa					3.00	
	3.00							
7 B	3.40 - 3.50	PID: 0.0ppmv						
8 ES	3.40 - 3.50							
	3.40			27.89		End of Exploratory Hole at 3.50m	3.50	
							4.00	

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
Machine excavated trial pit from GL to 3.50m

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP104
Project	Sakura, Wrexham	**Easting**	337969.00	**Equipment**	JCB 3cx	Sheet 1 of 5
Client	Thermotraffic	**Northing**	350326.80	**Method**	TP	
Project No	G24001	**Level**	31.39 mAOD	**Termination Reason**	Terminated at scheduled depth	



TP104 Face A close up



TP104 Face A

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS					Exploratory Hole TP104
Project	Sakura, Wrexham	**Easting**	337969.00	**Equipment**	JCB 3cx	Sheet 2 of 5
Client	Thermotraffic	**Northing**	350326.80	**Method**	TP	
Project No	G24001	**Level**	31.39 mAOD	**Termination Reason**	Terminated at scheduled depth	



TP104 Face B close up



TP104 Face B

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP104
Project	Sakura, Wrexham	**Easting**	337969.00	**Equipment**	JCB 3cx	Sheet 3 of 5
Client	Thermotraffic	**Northing**	350326.80	**Method**	TP	
Project No	G24001	**Level**	31.39 mAOD	**Termination Reason**	Terminated at scheduled depth	



TP104 Face C close up



TP104 Face C

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS					Exploratory Hole TP104
Project	Sakura, Wrexham	**Easting**	337969.00	**Equipment**	JCB 3cx	Sheet 4 of 5
Client	Thermotraffic	**Northing**	350326.80	**Method**	TP	
Project No	G24001	**Level**	31.39 mAOD	**Termination Reason**	Terminated at scheduled depth	



TP104 Face D close up



TP104 Face D

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole
TP104

Project	Sakura, Wrexham	**Easting**	337969.00	**Equipment**	JCB 3cx	Sheet 5 of 5
Client	Thermotraffic	**Northing**	350326.80	**Method**	TP	
Project No	G24001	**Level**	31.39 mAOD	**Termination Reason**	Terminated at scheduled depth	



TP104 Spoil

TRIAL PIT EXPLORATORY HOLE LOG

JACKSON GEO SERVICES

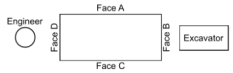
Exploratory Hole Progress by Time			Exploratory Hole
Date and Time	Depth	Water Depth	TP105
17/01/2024 15:25	0.00		
17/01/2024 15:54	1.80	Dry	

Project	Sakura, Wrexham			**Equipment**	JCB 3cx		Sheet 1 of 1
Client	Thermotraffic			**Method**	TP	**Scale**	1:20
Project No	G24001	**Level**	32.52 mAOD	**Orientation**	90 degrees		
Easting	338020.00	**Northing**	350423.20	**Length**	2.00	**Logged**	FT
Termination Reason	Potential service encountered (metal wire / cable)			**Width**	0.50	**Checked**	AP

Samples	Sampling and Testing Depths	Insitu Testing and Depth Related Remarks	Depth (Thickness)	Level (mAOD)	Legend	Description	Scale	Backfill
			0.00			Soft brown slightly silty sandy CLAY with rare subangular fine to medium gravel of red brick fragments, concrete, sandstone and mudstone. (TOPSOIL)		
			(0.20)					
			0.20	32.32		Grey slightly sandy fine to medium subrounded to subangular GRAVEL of concrete and aggregate. Sand is fine to coarse. (MADE GROUND (type 1.sub base))		
			(0.10)					
			0.30	32.22		Soft to firm yellowish brown to reddish brown and grey slightly sandy gravelly CLAY with low cobble content. Gravel is fine to coarse subrounded to angular of sandstone, mudstone, red brick, concrete and ceramic fragments. Cobbles are subrounded to subangular of red brick and mudstone. (MADE GROUND)		
2 B	0.40 - 0.80							
1 ES	0.50 - 0.60	PID: 0.0ppmv					0.50	
	0.50							
3 B	1.00 - 1.20		(1.50)				1.00	
4 B	1.50 - 1.60	PID: 0.0ppmv				*1.50m - 1.60m Two HDPE (hard plastic) fragments recovered.*	1.50	
5 ES	1.50 - 1.80							
	1.50							
	1.80	HV: P: 108kPa R: 30kPa		30.72		*1.75m - 1.80m Metal wire / cable (approximate 20mm diameter).*		
						End of Exploratory Hole at 1.80m	2.00	
							2.50	
							3.00	
							3.50	
							4.00	

Weather	Cold, dry
Shoring	None
Stability	Stable

Trial Pit Excavation Onsite Layout



Log presents Face A unless otherwise noted.

Water Strikes

Date and Time	Strike	Rising to	Time	Remarks

Remarks
Machine excavated trial pit from GL to 1.80m

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS					Exploratory Hole TP105
Project	Sakura, Wrexham	**Easting**	338020.00	**Equipment**	JCB 3cx	Sheet 1 of 3
Client	Thermotraffic	**Northing**	350423.20	**Method**	TP	
Project No	G24001	**Level**	32.52 mAOD	**Termination Reason**	Potential service encountered (metal wire / cable).	



TP105 Face A



TP105 Face B

EXPLORATORY HOLE PHOTOGRAPHS

Exploratory Hole
TP105

Project	Sakura, Wrexham	**Easting**	338020.00	**Equipment**	JCB 3cx	Sheet 2 of 3
Client	Thermotraffic	**Northing**	350423.20	**Method**	TP	
Project No	G24001	**Level**	32.52 mAOD	**Termination Reason**	Potential service encountered (metal wire / cable).	



TP105 Face C



TP105 Face D

JACKSON GEO SERVICES	EXPLORATORY HOLE PHOTOGRAPHS				Exploratory Hole TP105
Project	Sakura, Wrexham	**Easting**	338020.00	**Equipment**	JCB 3cx	Sheet 3 of 3
Client	Thermotraffic	**Northing**	350423.20	**Method**	TP	
Project No	G24001	**Level**	32.52 mAOD	**Termination Reason**	Potential service encountered (metal wire / cable).	



TP105 Spoil


TP105 wire at base

Appendix D – Geotechnical and Contamination Test Results

Laboratory Report

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES A PHENNA GROUP COMPANY

Contract Number: 70925

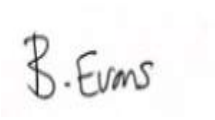
Client Ref: **G24001**
Client PO:

Date Received: **29-01-2024**
Date Completed: **08-02-2024**
Report Date: **08-02-2024**

Client: **Jackson Drilling Holdings Ltd**

Contract Title: **Sakura, Wrexham**
For the attention of: **Adam Putt**

This report has been checked and approved by:



Brendan Evans
Office Administrator

Description	Qty
Moisture Content BS 1377:1990 - Part 2 : 3.2 - * UKAS	17
4 Point Liquid & Plastic Limit BS 1377:1990 - Part 2 : 4.3 & 5.3 - * UKAS	10
PSD Wet Sieve method BS 1377:1990 - Part 2 : 9.2 - * UKAS	4
Dry Den/MC (2.5kg Rammer Method 1 litre mould/CBR Mould) BS 1377:1990 - Part 4 : 3.4 - * UKAS	2
One-dimensional Consolidation 75mm or 50mm diameter specimens (up to 5 stages/days) BS 1377:1990 - Part 5 : 3 - * UKAS	3
Quick Undrained Triaxial Compression Test - Multi-stage Loading of a single specimen (100mm diameter) BS 1377:1990 - Part 7 : 9 - * UKAS	5
Disposal of samples for job	1

Notes: **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
 # - denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:
Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)
Wayne Honey (Human Resources/ Health and Safety Manager)

GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
Tel: 01554 784 040 Fax: 01554 784 040 info@gstl.co.uk https://gstl.co.uk

GEOTECHNICAL SITE & TESTING LABORATORIES

Natural Moisture Content
(BS 1377:1990 - Part 2 : 3.2)
DESCRIPTIONS

Contract Number	70925
Site Name	Sakura, Wrexham
Date Tested	06/02/2024

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
BH102	17	B	5.00	-	5.45	Brown slightly gravelly slightly sandy SILT/ CLAY
TP101	5	B	1.50	-	1.70	Brown slightly gravelly fine to coarse sandy SILT/ CLAY
TP102	10	D	1.50	-	1.70	Brown slightly gravelly fine to coarse sandy SILT/ CLAY
TP102	6	B	1.50	-	1.70	Brown silty CLAY
TP104	3	B	1.00	-	1.30	Brown slightly gravelly fine to coarse sandy SILT/ CLAY
				-		
				-		
				-		
				-		
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Operators
Clayton Jenkins

GSTL
GEOTECHNICAL SITE & TESTING LABORATORIES

Natural Moisture Content
(BS 1377:1990 - Part 2 : 3.2)

Contract Number	70925
Project Name	Sakura, Wrexham
Date Tested	06/02/2024

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Remarks
BH102	17	B	5.00	-	5.45	24	
TP101	5	B	1.50	-	1.70	22	
TP102	10	D	1.50	-	1.70	17	
TP102	6	B	1.50	-	1.70	21	
TP104	3	B	1.00	-	1.30	17	

Operator
Clayton Jenkins

UKAS TESTING
2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)**	
Contract Number	70925	
Project Name	Sakura, Wrexham	
Date Tested	06/02/2024	
	DESCRIPTIONS	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Descriptions
BH101	17	B	5.00	-	5.45	Brown gravelly sandy silty CLAY
BH101	24	B	12.00	-	12.45	Brown silty CLAY
BH101	36	B	19.50	-	19.95	Brown silty CLAY
BH102	11	B	3.00	-	3.45	Brown silty CLAY
BH102	35	B	13.50	-	13.95	Brown silty CLAY
TP101	3	B	1.00	-	1.20	Brown gravelly sandy silty CLAY
TP102	5	B	1.00	-	1.30	Brown silty CLAY
TP102	7	B	3.00	-	3.50	Brown silty CLAY
TP104	5	B	2.00	-	2.30	Brown gravelly sandy silty CLAY
TP105	3	B	1.00	-	1.20	Brown gravelly sandy silty CLAY
				-		
				-		
				-		
				-		
				-		
				-		
				-		
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				-		

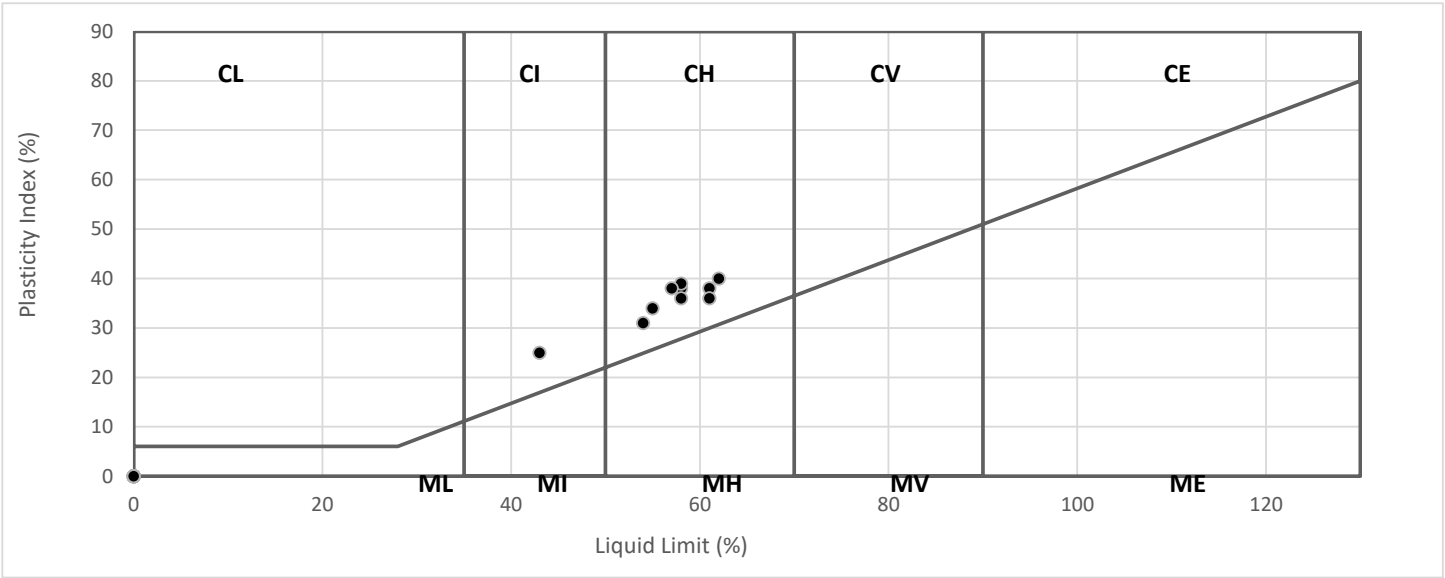
Operator
Clayton Jenkins

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	NATURAL MOISTURE, LIQUID LIMIT, PLASTIC LIMIT AND PLASTICITY INDEX (BS 1377:1990 - Part 2 : 4.3 & 5.3)	
Contract Number	70925	
Project Name	Sakura, Wrexham	
Date Tested	06/02/2024	

Sample/Hole Reference	Sample Number	Sample Type	Depth (m)			Moisture Content %	Liquid Limit %	Plastic Limit %	Plasticity index %	Passing 0.425mm %	Remarks
BH101	17	B	5.00	-	5.45	32	61	23	38	90	CH High Plasticity
BH101	24	B	12.00	-	12.45	27	62	22	40	100	CH High Plasticity
BH101	36	B	19.50	-	19.95	23	58	20	38	100	CH High Plasticity
BH102	11	B	3.00	-	3.45	30	61	25	36	100	CH High Plasticity
BH102	35	B	13.50	-	13.95	27	58	22	36	100	CH High Plasticity
TP101	3	B	1.00	-	1.20	24	54	23	31	86	CH High Plasticity
TP102	5	B	1.00	-	1.30	21	43	18	25	100	CI Intermediate Plasticity
TP102	7	B	3.00	-	3.50	25	55	21	34	100	CH High Plasticity
TP104	5	B	2.00	-	2.30	22	58	19	39	83	CH High Plasticity
TP105	3	B	1.00	-	1.20	21	57	19	38	86	CH High Plasticity
				-							
				-							
				-							
				-							
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				-							
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Symbols: NP : Non Plastic # : Liquid Limit and Plastic Limit Wet Sieved

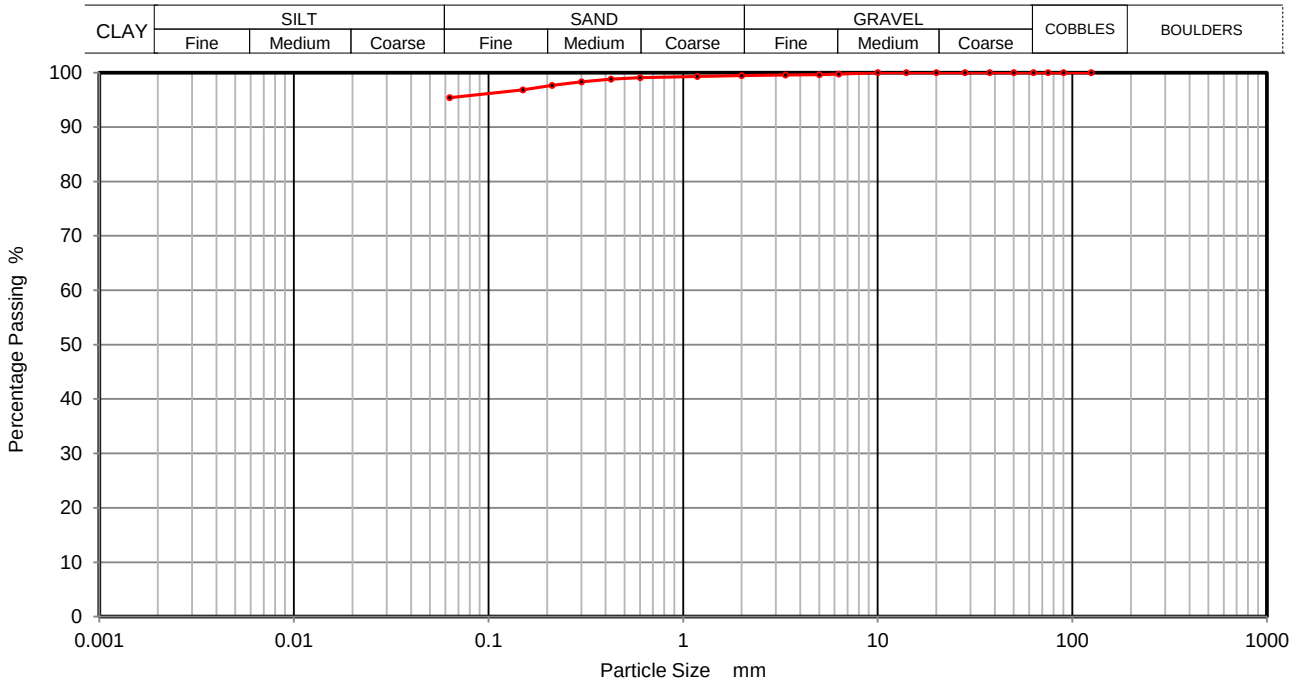
PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION
BS 5930:2015+A1:2020



Operator
Clayton Jenkins

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**PARTICLE SIZE DISTRIBUTION** **BS 1377 Part 2:1990** **Wet Sieve, Clause 9.2**	Contract Number	70925
		Borehole/Pit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	17
Soil Description	Brown slightly gravelly slightly sandy SILT/ CLAY	Depth Top	5.00
		Depth Base	5.45
Date Tested	06/02/2024	Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	98		
0.212	98		
0.15	97		
0.063	95		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	4
Silt and Clay	95

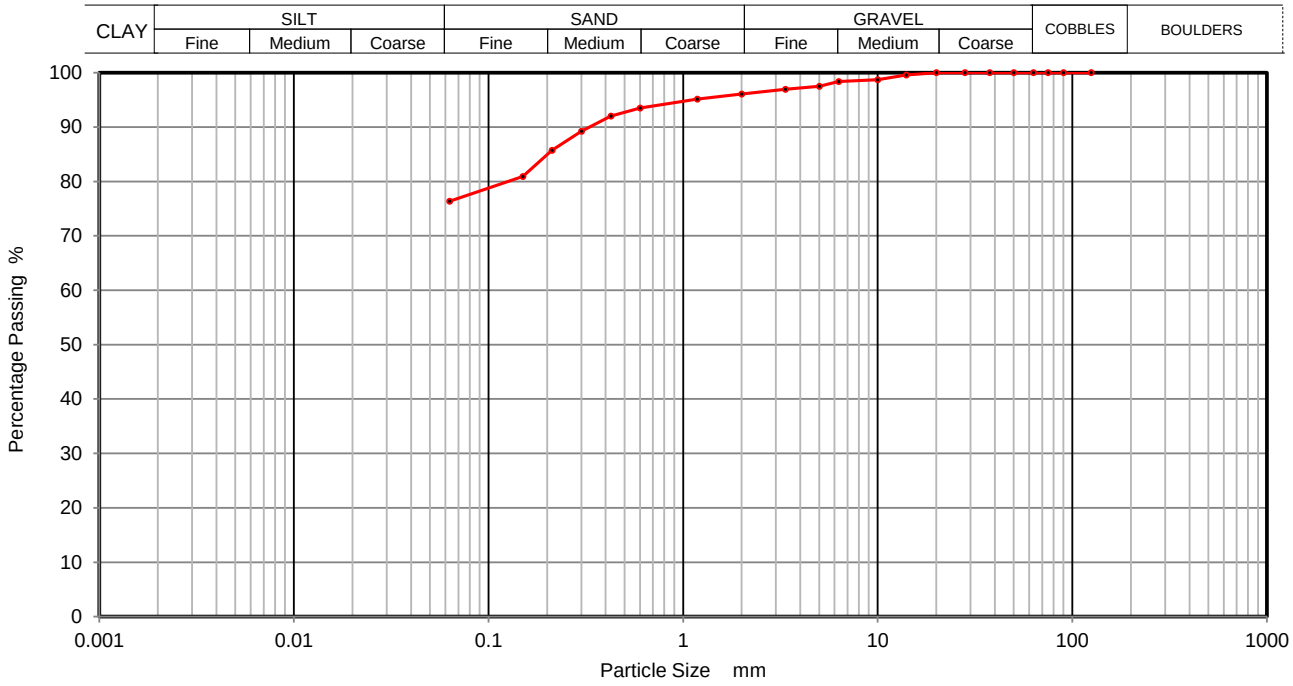
Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator
David Edwards

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**PARTICLE SIZE DISTRIBUTION** **BS 1377 Part 2:1990** **Wet Sieve, Clause 9.2**	Contract Number	70925
		Borehole/Pit No.	TP101
Project Name	Sakura, Wrexham	Sample No.	5
Soil Description	Brown slightly gravelly fine to coarse sandy SILT/ CLAY	Depth Top	1.50
		Depth Base	1.70
Date Tested	06/02/2024	Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	98		
3.35	97		
2	96		
1.18	95		
0.6	93		
0.425	92		
0.3	89		
0.212	86		
0.15	81		
0.063	76		

Sample Proportions	% dry mass
Cobbles	0
Gravel	4
Sand	20
Silt and Clay	76

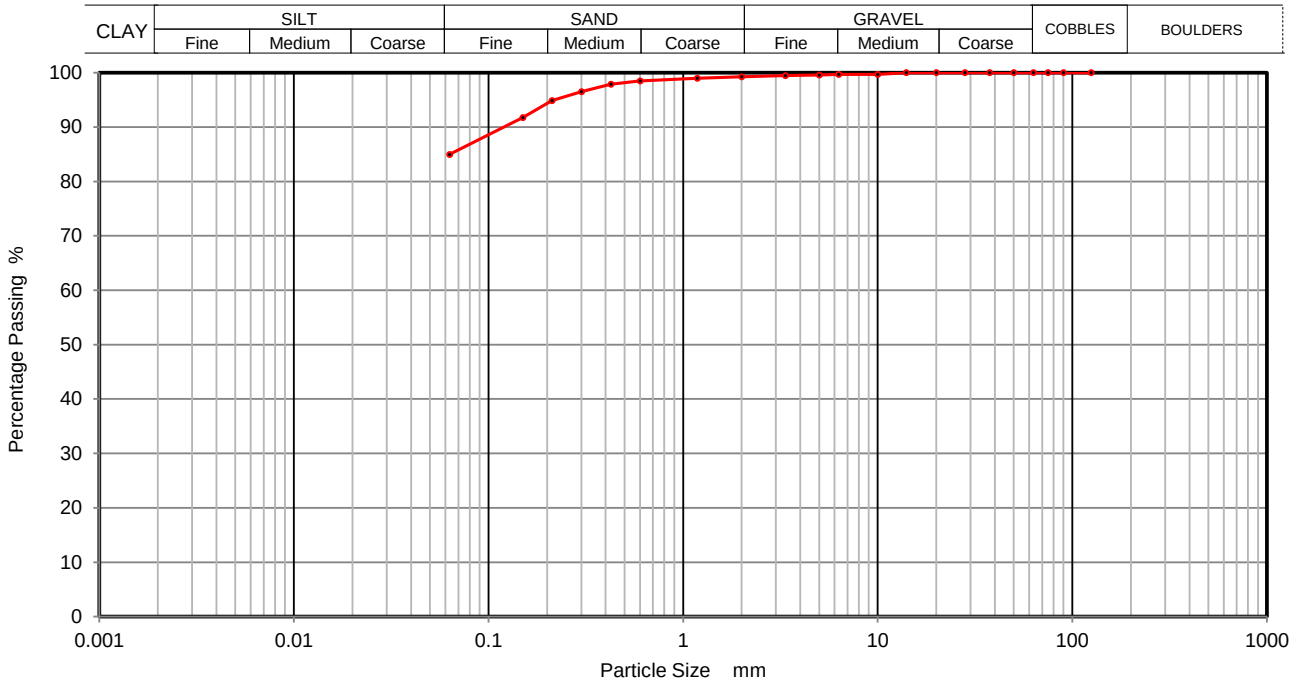
Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator
David Edwards

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**PARTICLE SIZE DISTRIBUTION** **BS 1377 Part 2:1990** **Wet Sieve, Clause 9.2**	Contract Number	70925
		Borehole/Pit No.	TP102
Project Name	Sakura, Wrexham	Sample No.	10
Soil Description	Brown slightly gravelly fine to coarse sandy SILT/ CLAY	Depth Top	1.50
		Depth Base	1.70
Date Tested	06/02/2024	Sample Type	D



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	98		
0.425	98		
0.3	97		
0.212	95		
0.15	92		
0.063	85		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	14
Silt and Clay	85

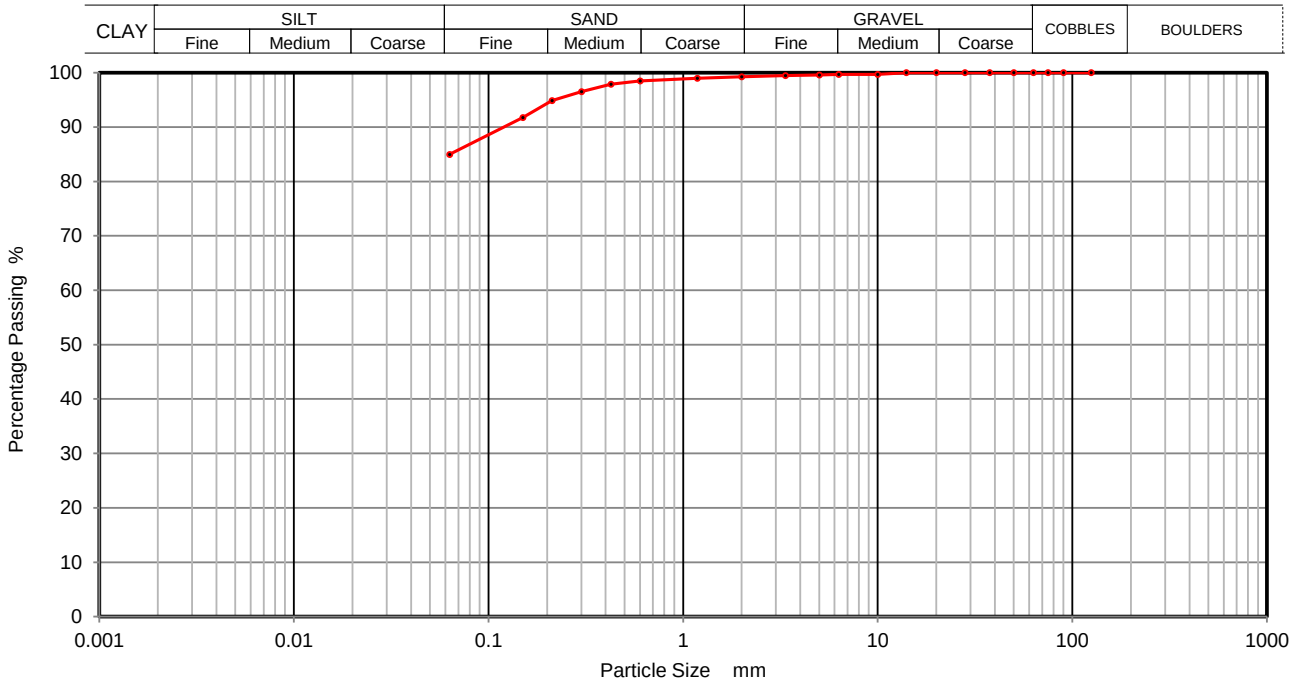
Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator
David Edwards

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**PARTICLE SIZE DISTRIBUTION** **BS 1377 Part 2:1990** **Wet Sieve, Clause 9.2**	Contract Number	70925
		Borehole/Pit No.	TP104
Project Name	Sakura, Wrexham	Sample No.	3
Soil Description	Brown slightly gravelly fine to coarse sandy SILT/ CLAY	Depth Top	1.00
		Depth Base	1.30
Date Tested	06/02/2024	Sample Type	B



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	99		
1.18	99		
0.6	98		
0.425	98		
0.3	97		
0.212	95		
0.15	92		
0.063	85		

Sample Proportions	% dry mass
Cobbles	0
Gravel	1
Sand	14
Silt and Clay	85

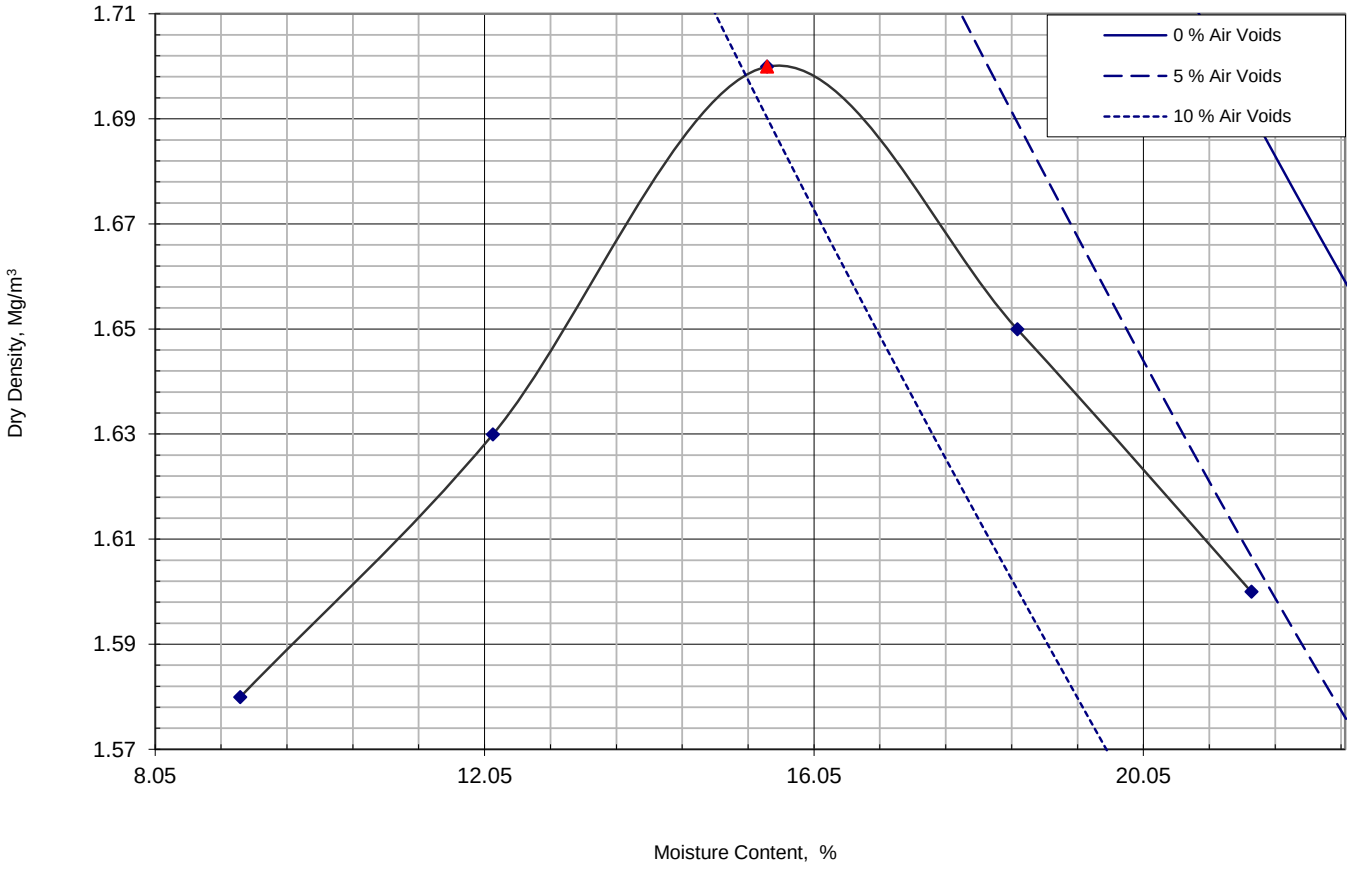
Remarks

Preparation and testing in accordance with BS1377 unless noted below

Operator
David Edwards

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Dry Density / Moisture Content Relationship BS 1377:Part 4:1990**	Contract Number	70925
		Borehole / Pit No	TP102
Project Name	Sakura, Wrexham	Sample No	4
Date Tested	01/02/2024	Depth Top	0.50
Compaction Method	2.5 Kg Rammer	Depth Base	0.80
Compaction Clause	BS1377:Part 4:1990, Clause 3.3	Sample Type	B
Sample Description	Brown silty CLAY	Single or Separate Sample Used	Single



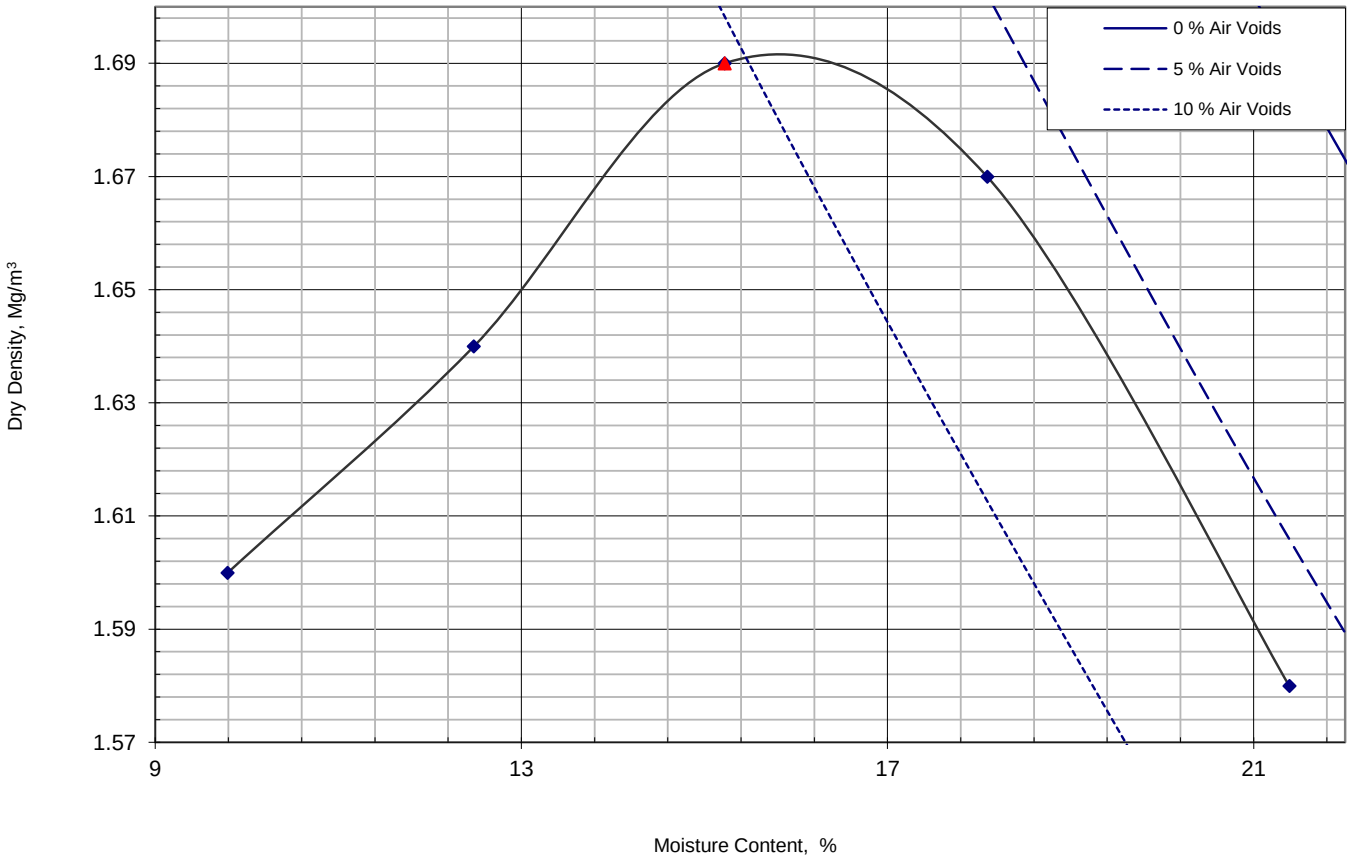
Compaction Point	1	2	3	4	5							
Moisture Content	9.1	12	15	19	21							
Bulk Density	1.72	1.83	1.96	1.96	1.94							
Dry Density	1.58	1.63	1.70	1.65	1.60							

Initial Moisture Content	21	%
Maximum Dry Density	1.70	Mg/m3
Optimum Moisture Content	15	%
Particle Density	2.65 Assumed	Mg/m3
Material Retained 37.5mm	0	%
Material Retained 20mm	0	%

Operator
Conor

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Dry Density / Moisture Content Relationship BS 1377:Part 4:1990**	Contract Number	70925
		Borehole / Pit No	TP104
Project Name	Sakura, Wrexham	Sample No	2
Date Tested	01/02/2024	Depth Top	0.60
Compaction Method	2.5 Kg Rammer	Depth Base	0.80
Compaction Clause	BS1377:Part 4:1990, Clause 3.3	Sample Type	B
Sample Description	Brown fine to medium gravelly silty CLAY	Single or Separate Sample Used	Single



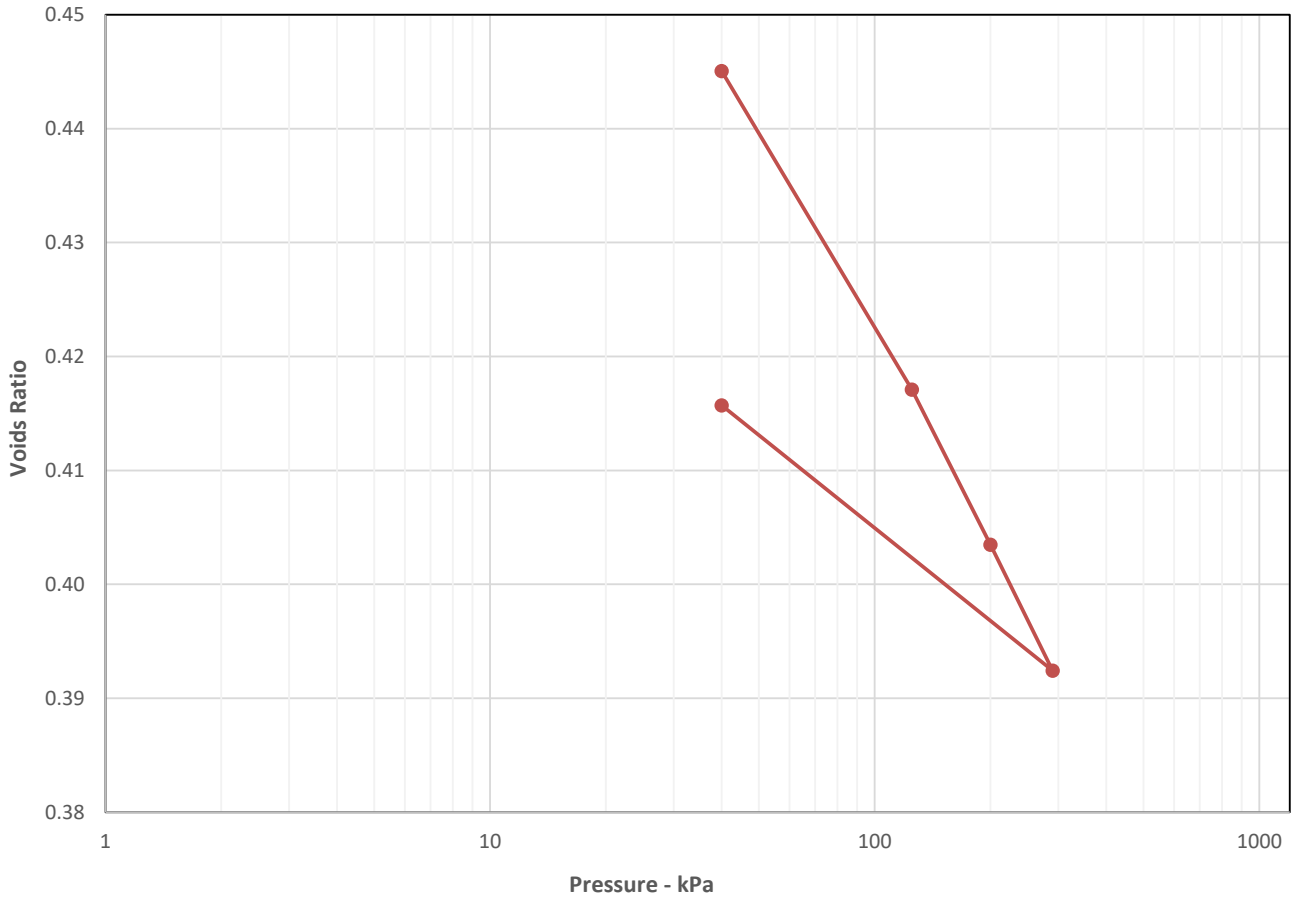
Compaction Point	1	2	3	4	5							
Moisture Content	9.8	12	15	18	21							
Bulk Density	1.76	1.84	1.95	1.97	1.92							
Dry Density	1.60	1.64	1.69	1.67	1.58							

Initial Moisture Content	21	%
Maximum Dry Density	1.69	Mg/m3
Optimum Moisture Content	15	%
Particle Density	2.65 Assumed	Mg/m3
Material Retained 37.5mm	0	%
Material Retained 20mm	0	%

Operator
Conor

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3	Contract Number	70925
		Borehole/Trialpit No.	BH101
Project Name	Sakura, Wrexham	Sample No.	9
Soil Description	Brown silty CLAY	Depth Top (m)	2.00
		Depth Base (m)	2.45
Lab Temperature	20°c	Sample Location	Top
Remarks	Cv Calculated Using T90 Particle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	02/02/2024		

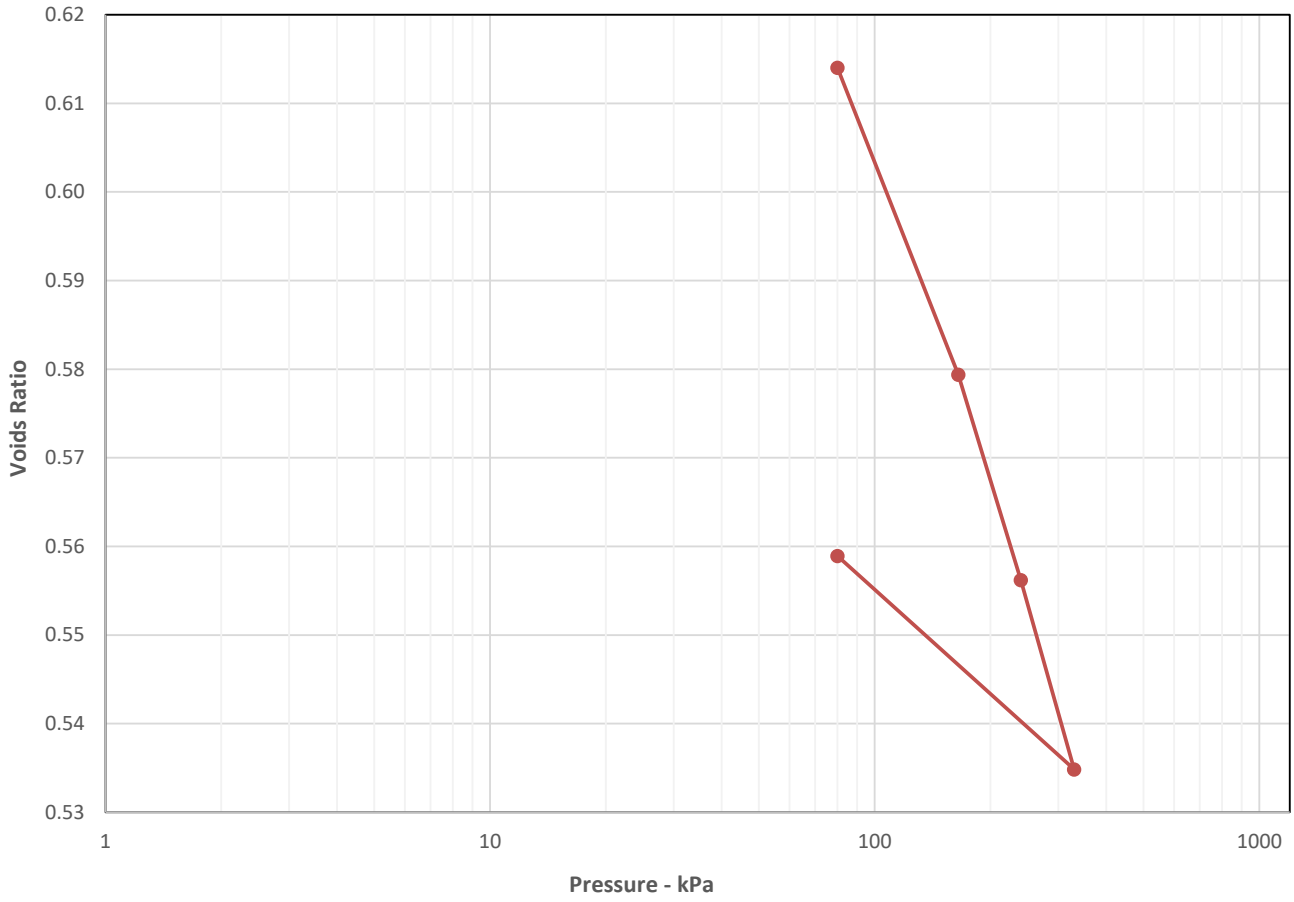


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	21	0	-	40	0.31	1.8		-			
Bulk Density (Mg/m3)	2.19	40	-	125	0.23	2.9		-			
Dry Density (Mg/m3)	1.81	125	-	200	0.13	2.1		-			
Voids Ratio	0.4630	200	-	290	0.088	3.3		-			
Degree of saturation	120.9	290	-	40	0.067	2.6		-			
Height (mm)	20.1		-					-			
Diameter (mm)	74.93		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operator
Wayne W

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3	Contract Number	70925
		Borehole/Trialpit No.	BH101
Project Name	Sakura, Wrexham	Sample No.	14
Soil Description	Brown silty CLAY	Depth Top (m)	4.00
		Depth Base (m)	4.45
Lab Temperature	20°c	Sample Location	Top
Remarks	Cv Calculated Using T90 Particle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	02/02/2024		

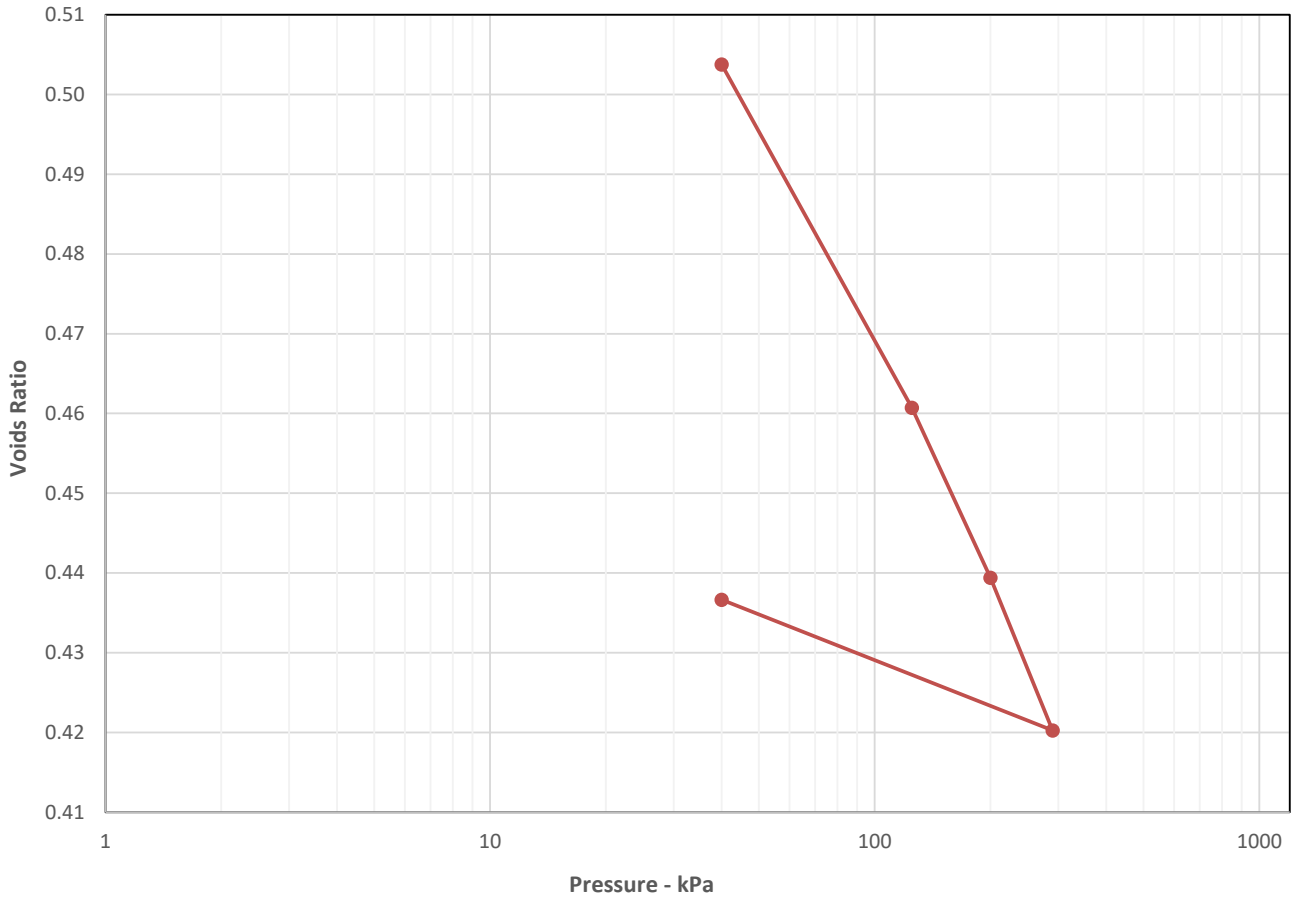


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	33	0	-	80	0.97	0.73		-			
Bulk Density (Mg/m3)	2.02	80	-	165	0.25	1.1		-			
Dry Density (Mg/m3)	1.51	165	-	240	0.20	0.67		-			
Voids Ratio	0.7498	240	-	330	0.15	1.1		-			
Degree of saturation	118.0	330	-	80	0.063	2.3		-			
Height (mm)	20		-					-			
Diameter (mm)	74.96		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operator
Wayne W

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	ONE DIMENSIONAL CONSOLIDATION TEST BS1377:Part 5:1990, clause 3	Contract Number	70925
		Borehole/Trialpit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	24
Soil Description	Grey silty CLAY	Depth Top (m)	2.00
		Depth Base (m)	2.45
Lab Temperature	20°c	Sample Location	Top
Remarks	Cv Calculated Using T90 Particle Density Assumed Unless Stated Otherwise	Sample Type	UT
Date Tested	02/02/2024		

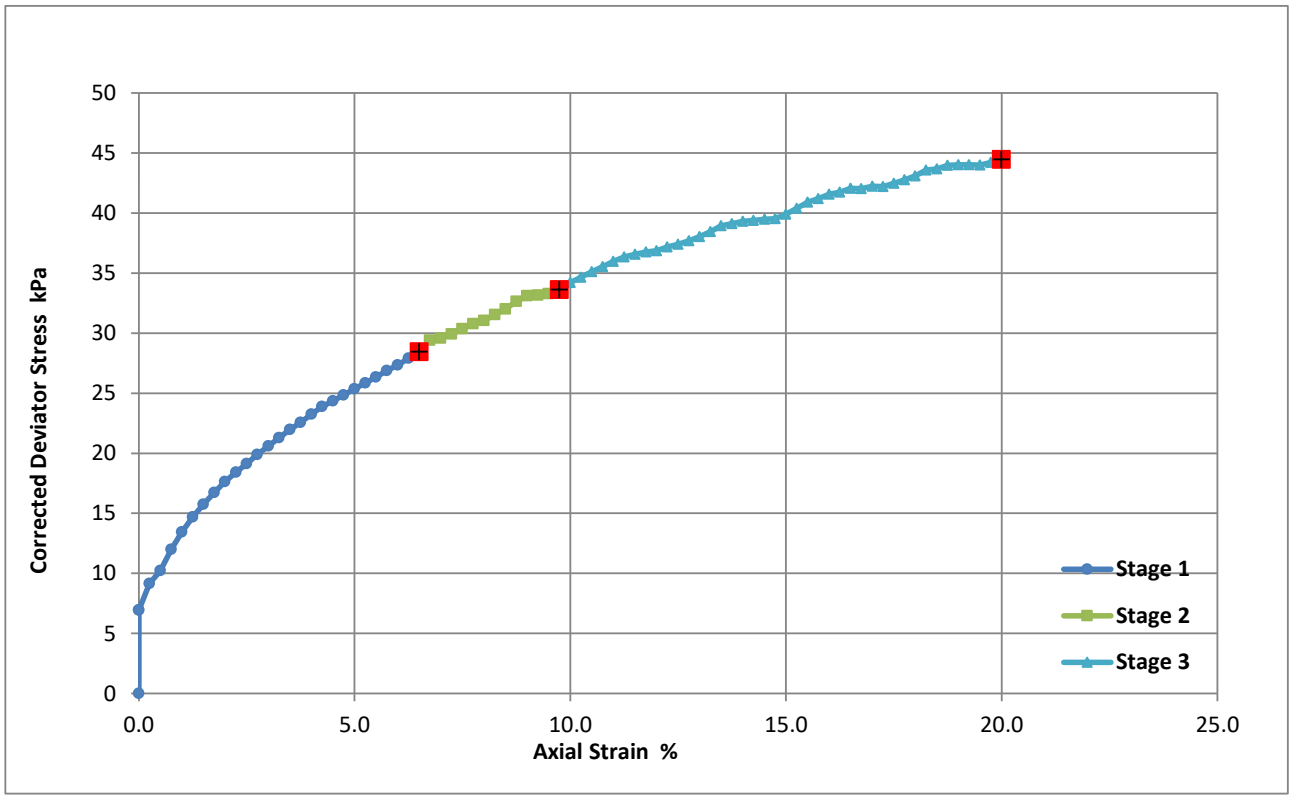


Initial Sample Conditions		Pressure Range			Mv m2/MN	Cv m2/yr	Pressure Range			Mv m2/MN	Cv m2/yr
Moisture Content (%)	27	0	-	40	1.2	0.41		-			
Bulk Density (Mg/m3)	2.13	40	-	125	0.34	0.42		-			
Dry Density (Mg/m3)	1.68	125	-	200	0.19	0.33		-			
Voids Ratio	0.5795	200	-	290	0.15	0.32		-			
Degree of saturation	123.4	290	-	40	0.046	2.1		-			
Height (mm)	20.03		-					-			
Diameter (mm)	74.91		-					-			
Particle Density (Mg/m3)	2.65		-					-			

Operator
Wayne W

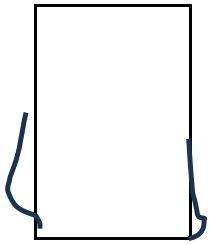
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH101
Project Name	Sakura, Wrexham	Sample No.	44
Soil Description	Red slightly sandy silty CLAY	Depth Top	24.00
		Depth Base	24.45
Date Tested	05/02/2024	Sample Type	UT
		Operator	Jordan



Moisture Content (%)	13		
Bulk Density (Mg/m^3)	2.25		
Dry Density (Mg/m^3)	1.98		
Specimen Length (mm)	207.8		
Specimen Diameter (mm)	98.7		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	480	580	680
Deviator Stress (kPa)	28	34	44
Undrained Shear Strength (kPa)	14	17	22
Failure Strain (%)	6.5	9.7	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

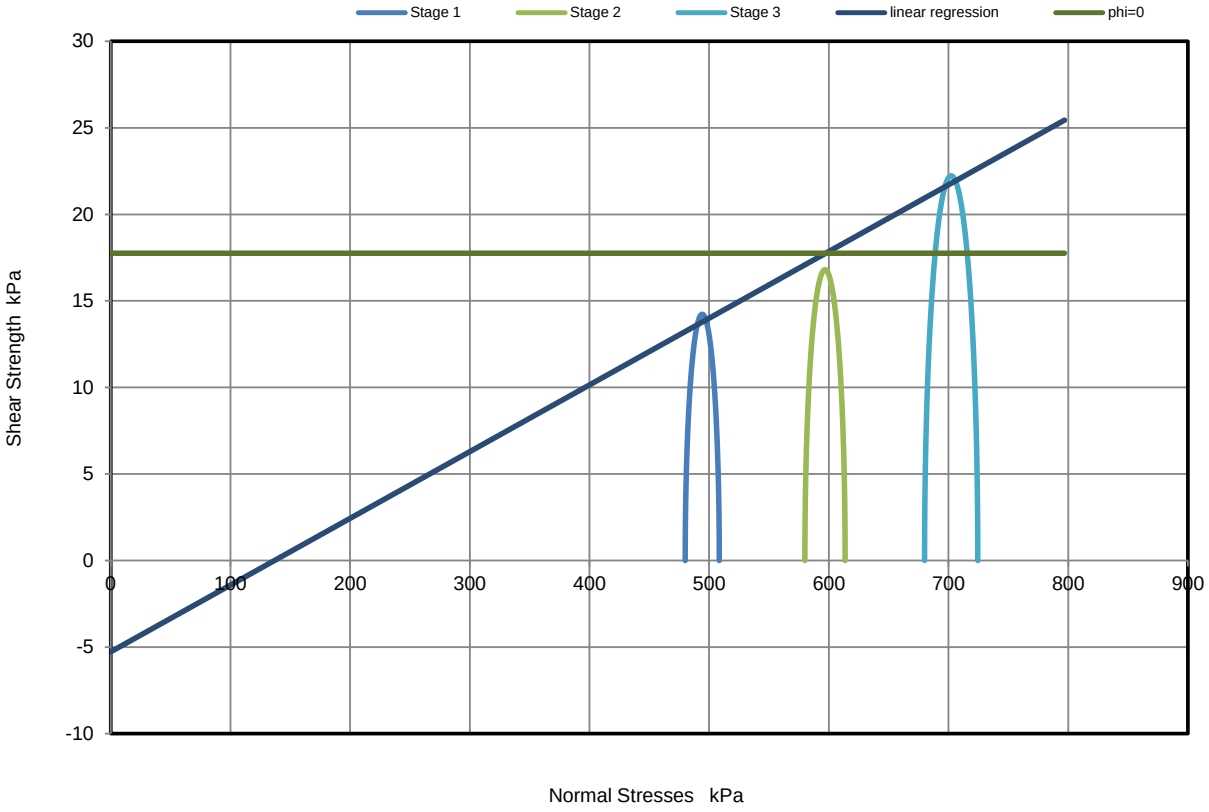


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH101
Project Name	Sakura, Wrexham	Sample No.	44
Soil Description	Red slightly sandy silty CLAY	Depth Top	24.00
		Depth Base	24.45
Date Tested	05/02/2024	Sample Type	UT
		Technician	Jordan

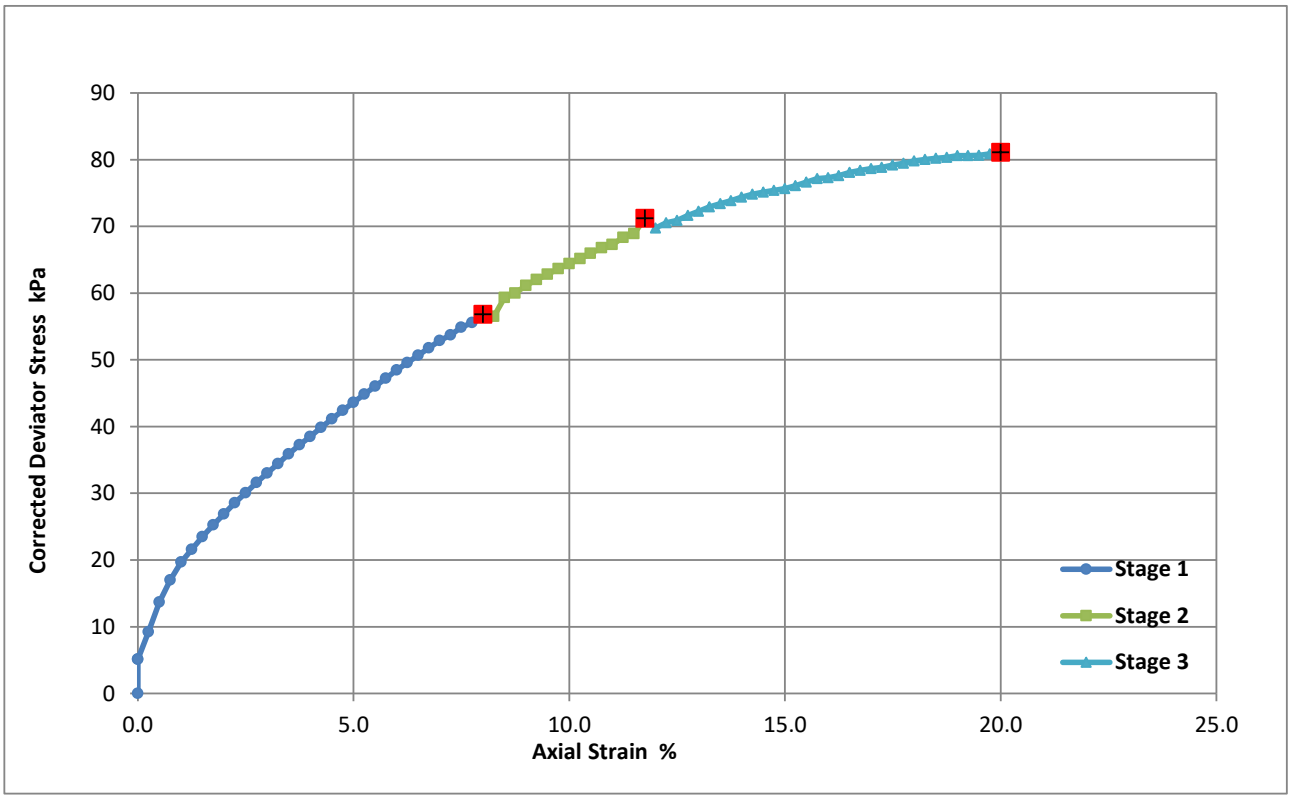
Mohr Circles



$\phi_u = 0$			Linear Regression	
Average c_u	18	kPa	ϕ_u	2.2 °
			c_u	-5 kPa

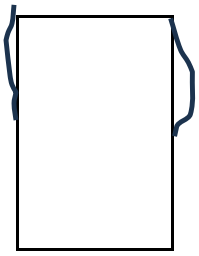
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH101
Project Name	Sakura, Wrexham	Sample No.	16
Soil Description	Red slightly sandy silty CLAY	Depth Top	7.50
		Depth Base	7.95
Date Tested	05/02/2024	Sample Type	UT
		Operator	Jordan



Moisture Content (%)	24		
Bulk Density (Mg/m^3)	2.11		
Dry Density (Mg/m^3)	1.70		
Specimen Length (mm)	208.6		
Specimen Diameter (mm)	100.8		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	150	250	350
Deviator Stress (kPa)	57	71	81
Undrained Shear Strength (kPa)	28	36	41
Failure Strain (%)	8.0	12	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

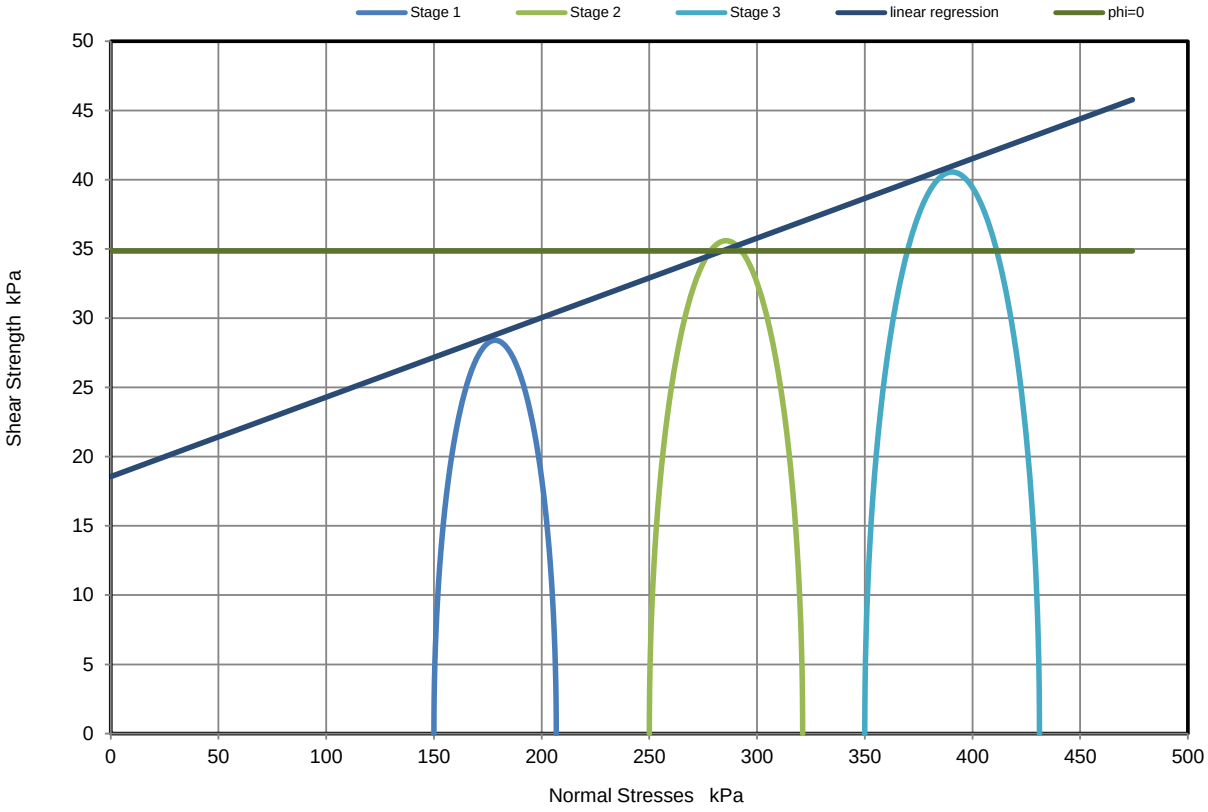


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH101
Project Name	Sakura, Wrexham	Sample No.	16
Soil Description	Red slightly sandy silty CLAY	Depth Top	7.50
		Depth Base	7.95
Date Tested	05/02/2024	Sample Type	UT
		Technician	Jordan

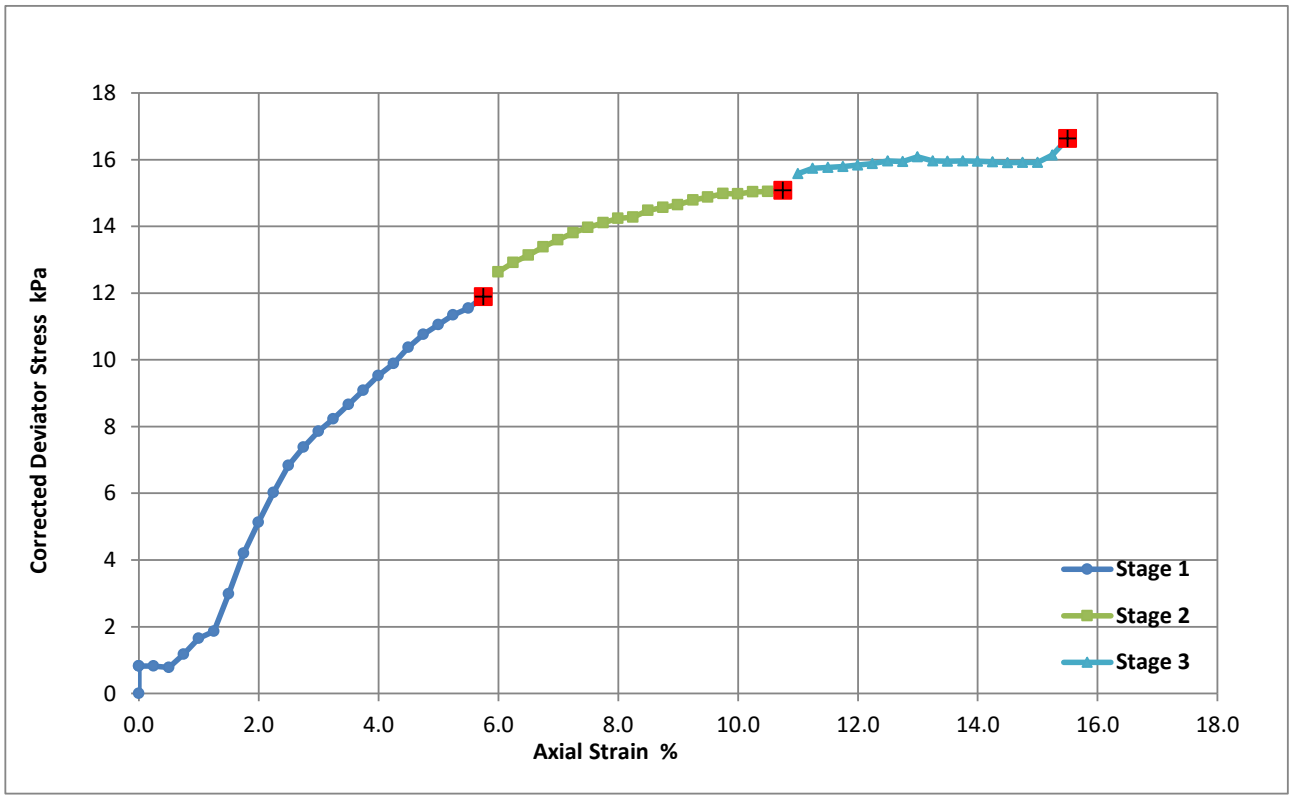
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	35	kPa	ϕ_u	3.3	°
			c_u	19	kPa

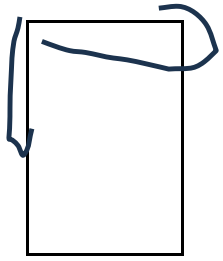
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	27
Soil Description	Red CLAY	Depth Top	12.00
		Depth Base	12.45
Date Tested	06/02/2024	Sample Type	UT
		Operator	Jordan



Moisture Content (%)	28		
Bulk Density (Mg/m^3)	1.90		
Dry Density (Mg/m^3)	1.48		
Specimen Length (mm)	208.8		
Specimen Diameter (mm)	104.1		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	240	340	440
Deviator Stress (kPa)	12	15	17
Undrained Shear Strength (kPa)	5.9	7.5	8.3
Failure Strain (%)	5.8	11	15
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

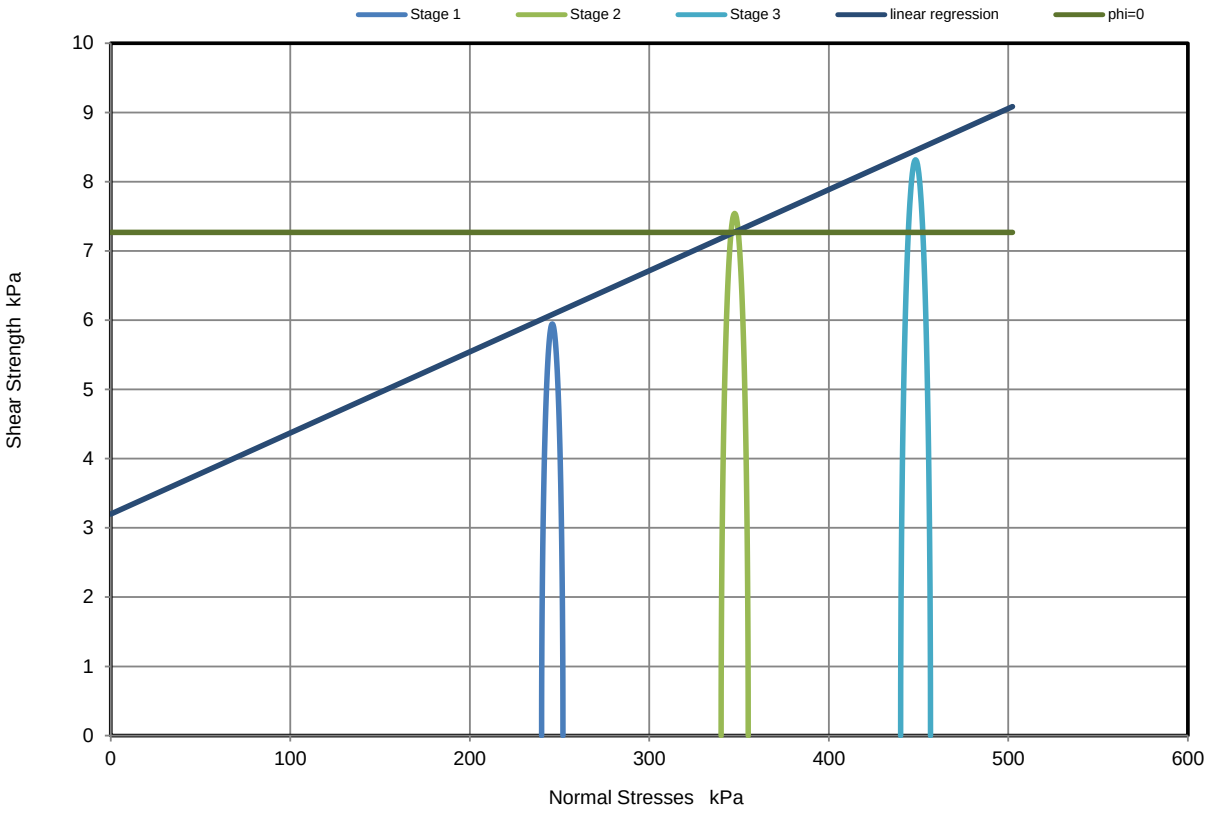


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	27
Soil Description	Red CLAY	Depth Top	12.00
		Depth Base	12.45
Date Tested	06/02/2024	Sample Type	UT
		Technician	Jordan

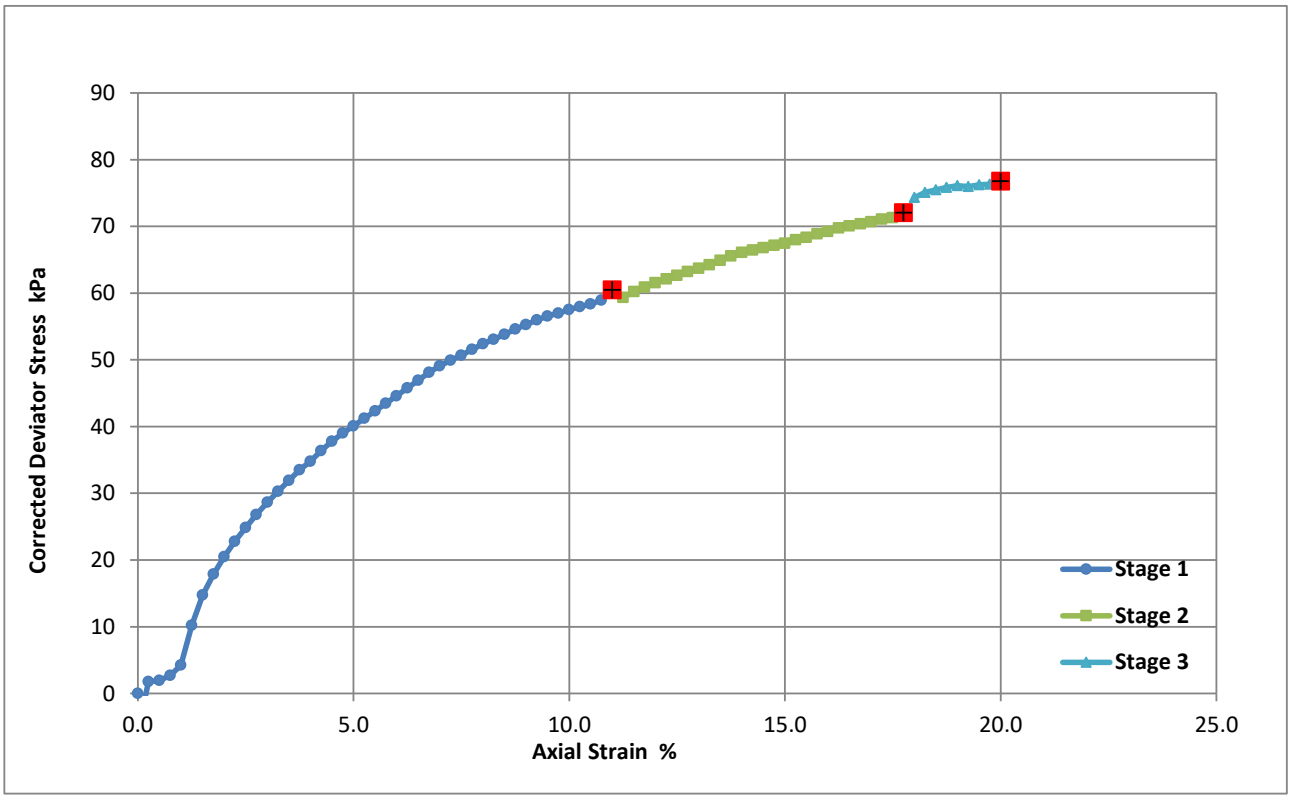
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	7	kPa	ϕ_u	0.7	°
			c_u	3	kPa

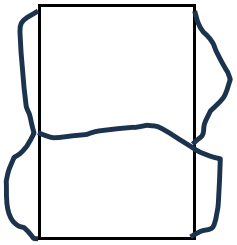
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	25
Soil Description	Red slightly silty sandy CLAY	Depth Top	4.00
		Depth Base	4.45
Date Tested	06/02/2024	Sample Type	UT
		Operator	Jordan



Moisture Content (%)	21		
Bulk Density (Mg/m^3)	1.98		
Dry Density (Mg/m^3)	1.64		
Specimen Length (mm)	208.9		
Specimen Diameter (mm)	104.3		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	80	180	280
Deviator Stress (kPa)	60	72	77
Undrained Shear Strength (kPa)	30	36	38
Failure Strain (%)	11	18	20
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

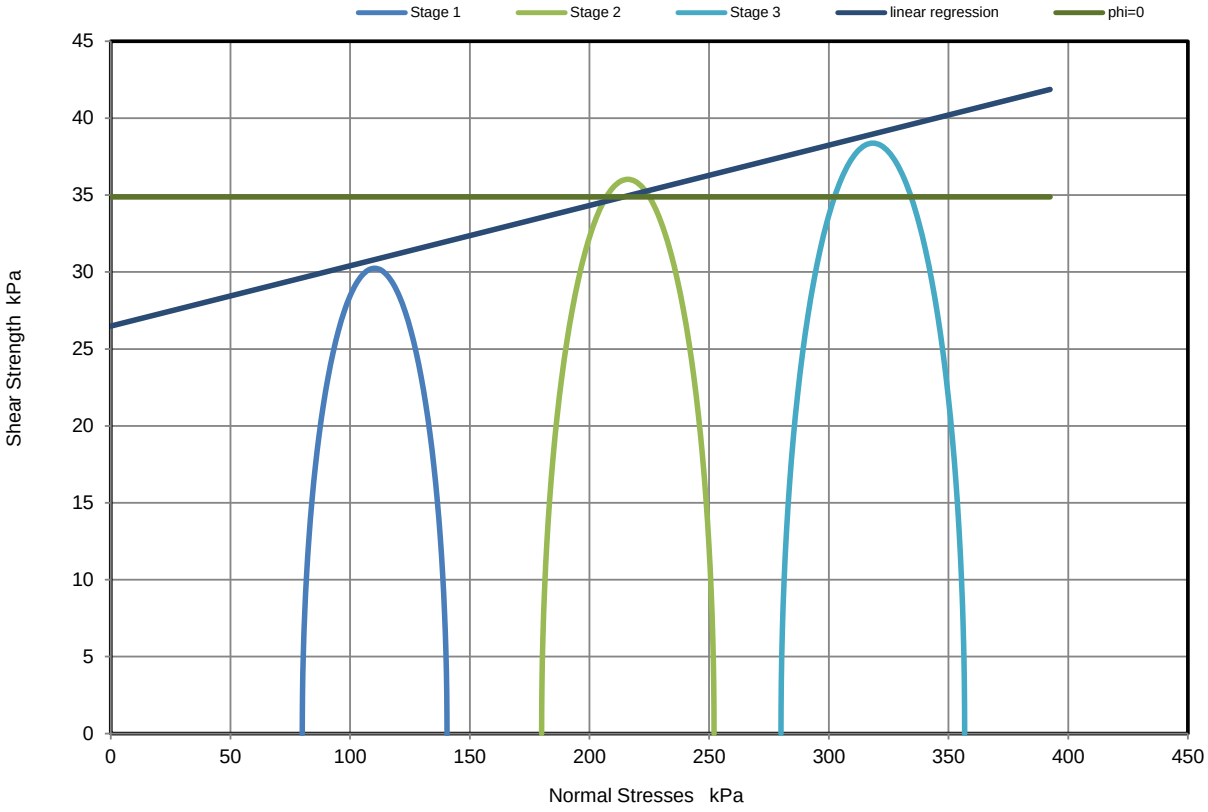


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	25
Soil Description	Red slightly silty sandy CLAY	Depth Top	4.00
		Depth Base	4.45
Date Tested	06/02/2024	Sample Type	UT
		Technician	Jordan

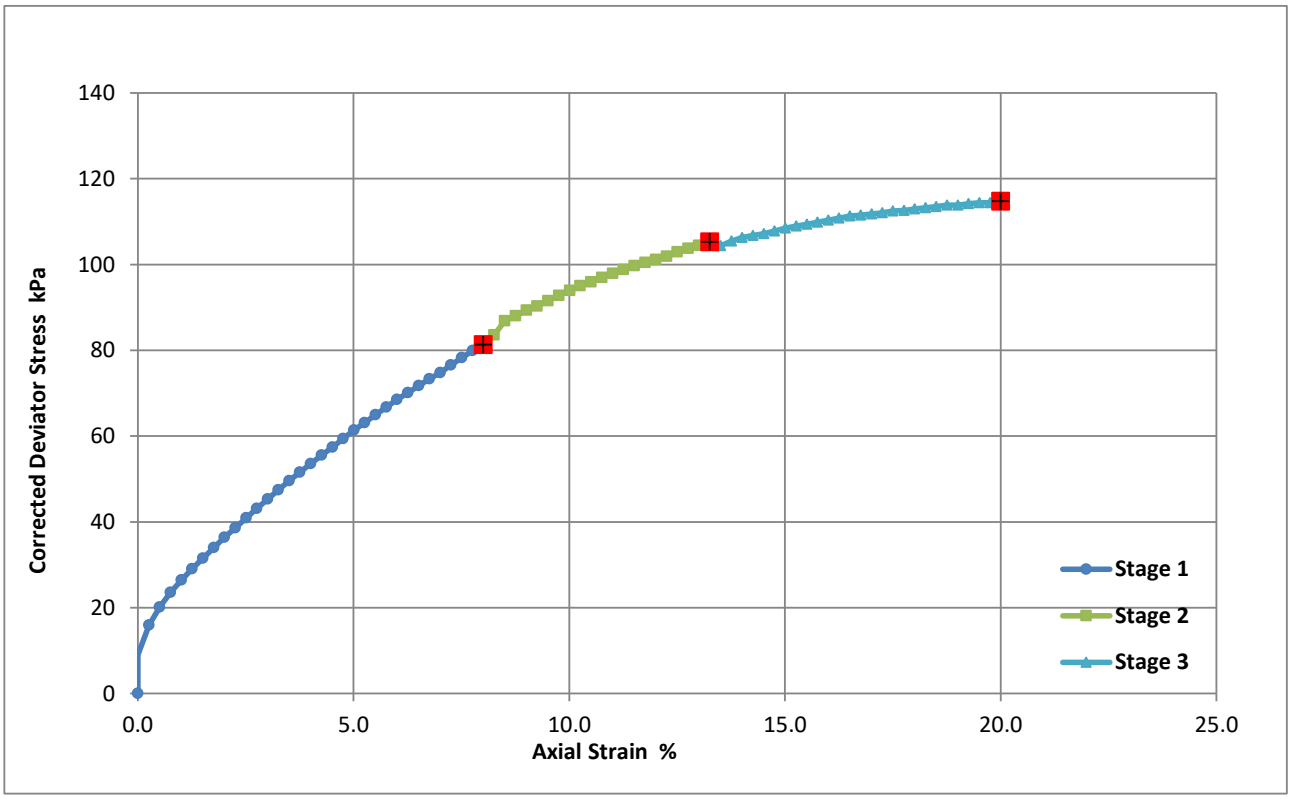
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	35	kPa	ϕ_u	2.2	°
			c_u	26	kPa

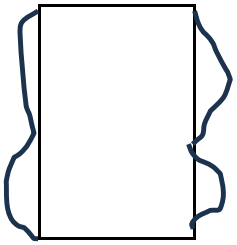
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	26
Soil Description	Red Silty CLAY	Depth Top	9.00
		Depth Base	9.45
Date Tested	06/02/2024	Sample Type	UT
		Operator	Jordan



Moisture Content (%)	26		
Bulk Density (Mg/m^3)	2.17		
Dry Density (Mg/m^3)	1.72		
Specimen Length (mm)	206.9		
Specimen Diameter (mm)	99.4		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	180	280	380
Deviator Stress (kPa)	81	105	115
Undrained Shear Strength (kPa)	41	53	57
Failure Strain (%)	8.0	13	20
Mode Of Failure	Compound		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

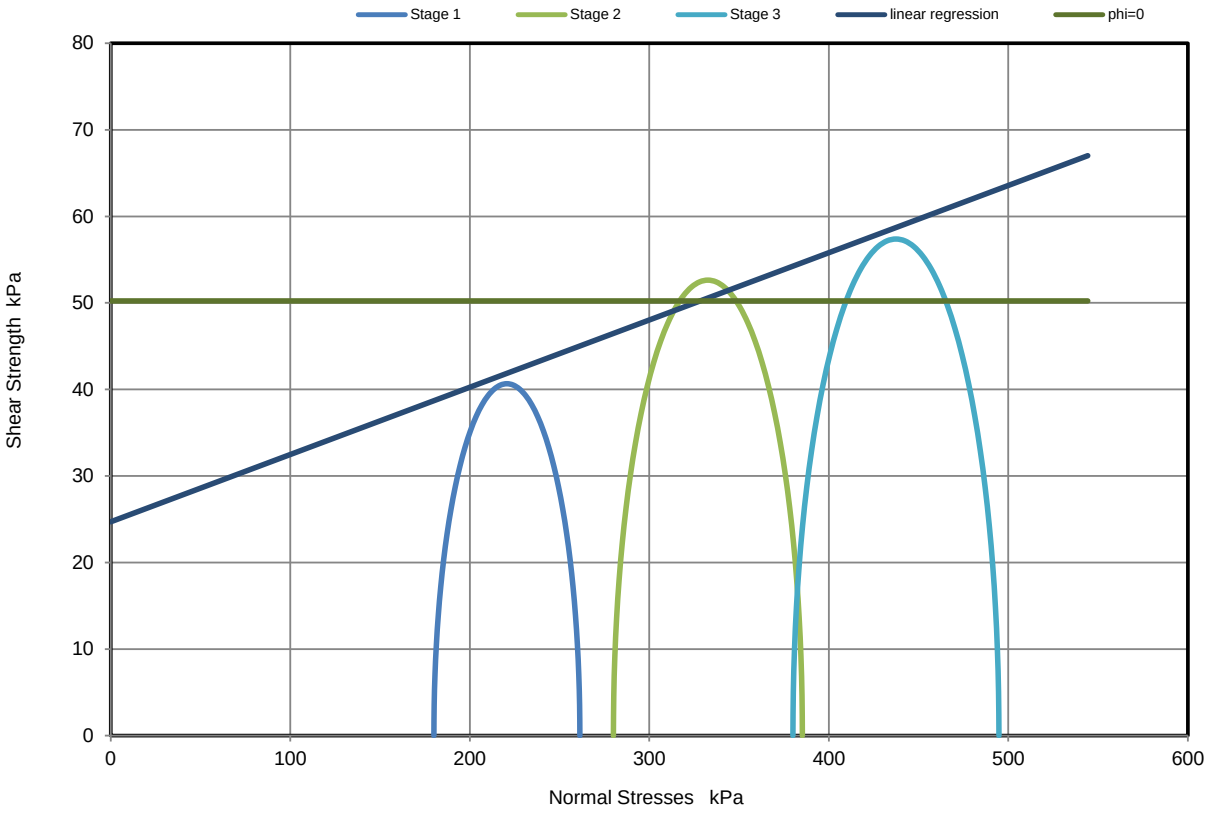


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	70925
		Borehole/Pit No.	BH102
Project Name	Sakura, Wrexham	Sample No.	26
Soil Description	Red Silty CLAY	Depth Top	9.00
		Depth Base	9.45
Date Tested	06/02/2024	Sample Type	UT
		Technician	Jordan

Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	50	kPa	ϕ_u	4.4	°
			c_u	25	kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Laboratory Report

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES A PHENNA GROUP COMPANY

Contract Number: 72769

Client Ref: **TF-24-148**
Client PO:

Client: **Terrafirma South**

Contract Title: **Project Sakura**
For the attention of: **Paul Standish**

Date Received: **21-05-2024**
Date Completed: **11-06-2024**
Report Date: **11-06-2024**

This report has been checked and approved by:

B. Evans

Brendan Evans
Office Administrator

Description	Qty
Quick Undrained Triaxial Compression Test - Multi-stage Loading of a single specimen (100mm diameter) BS 1377:1990 - Part 7 : 9 - * UKAS	14
Disposal of samples for job	1

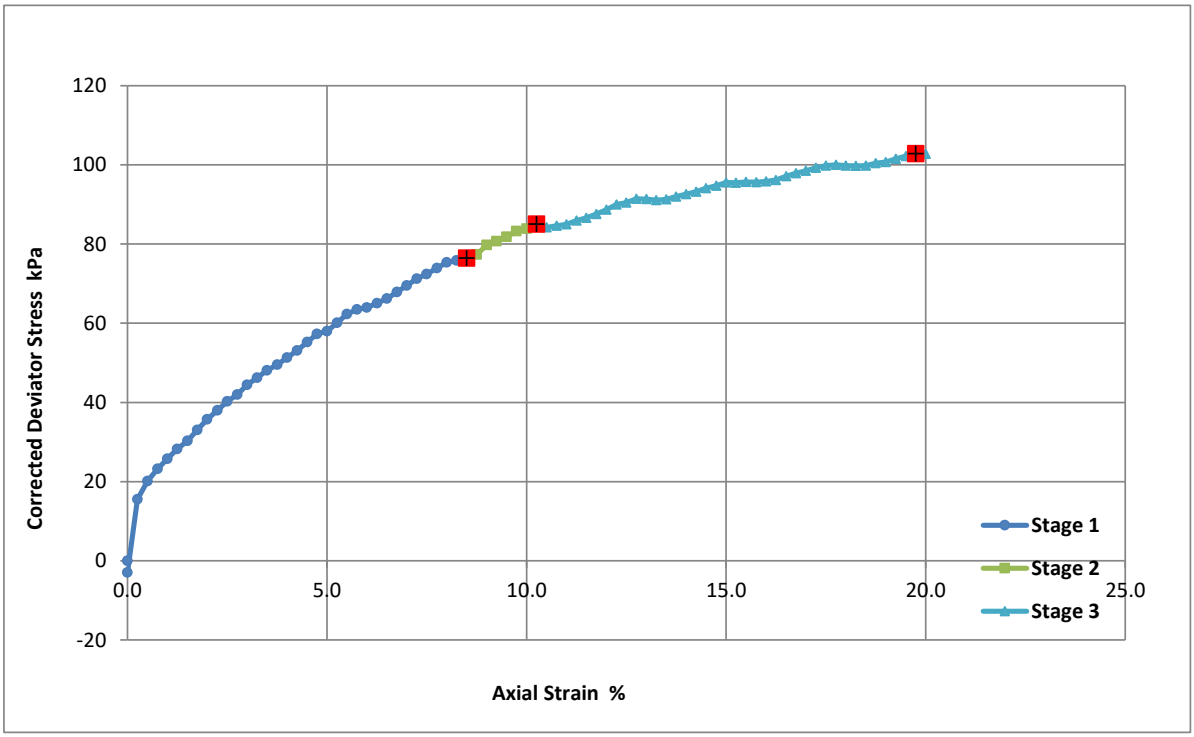
Notes: **Observations and Interpretations are outside the UKAS Accreditation**
*** - denotes test included in laboratory scope of accreditation**
 # - denotes test carried out by approved contractor
@ - denotes non accredited tests

This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This test report/certificate shall not be reproduced except in full, without the approval of GEO Site & Testing Services Ltd. Any opinions or interpretations stated - within this report/certificate are excluded from the laboratories UKAS accreditation.

Approved Signatories:
Brendan Evans (Office Administrator) - Darren Bourne (Quality Senior Technician) - Paul Evans (Director)
Richard John (Quality/Technical Manager) - Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager)
Wayne Honey (HR & HSE Manager)

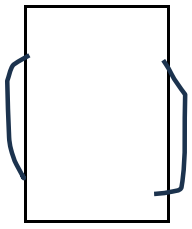
GEO Site & Testing Services Ltd
Unit 3-4 Heol Aur, Dafen Ind Est, Llanelli, Carmarthenshire SA14 8QN
Tel: 01554 784 040 Fax: 01554 784 040 info@gstl.co.uk https://gstl.co.uk

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH201
Project Name	Project Sakura	Sample No.	18
Soil Description	Brown Sandy Silty CLAY	Depth Top	13.50
		Depth Base	13.95
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	20		
Bulk Density (Mg/m^3)	2.17		
Dry Density (Mg/m^3)	1.82		
Specimen Length (mm)	209.5		
Specimen Diameter (mm)	100.9		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	121	242	363
Deviator Stress (kPa)	76	85	103
Undrained Shear Strength (kPa)	38	43	51
Failure Strain (%)	8.5	10	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

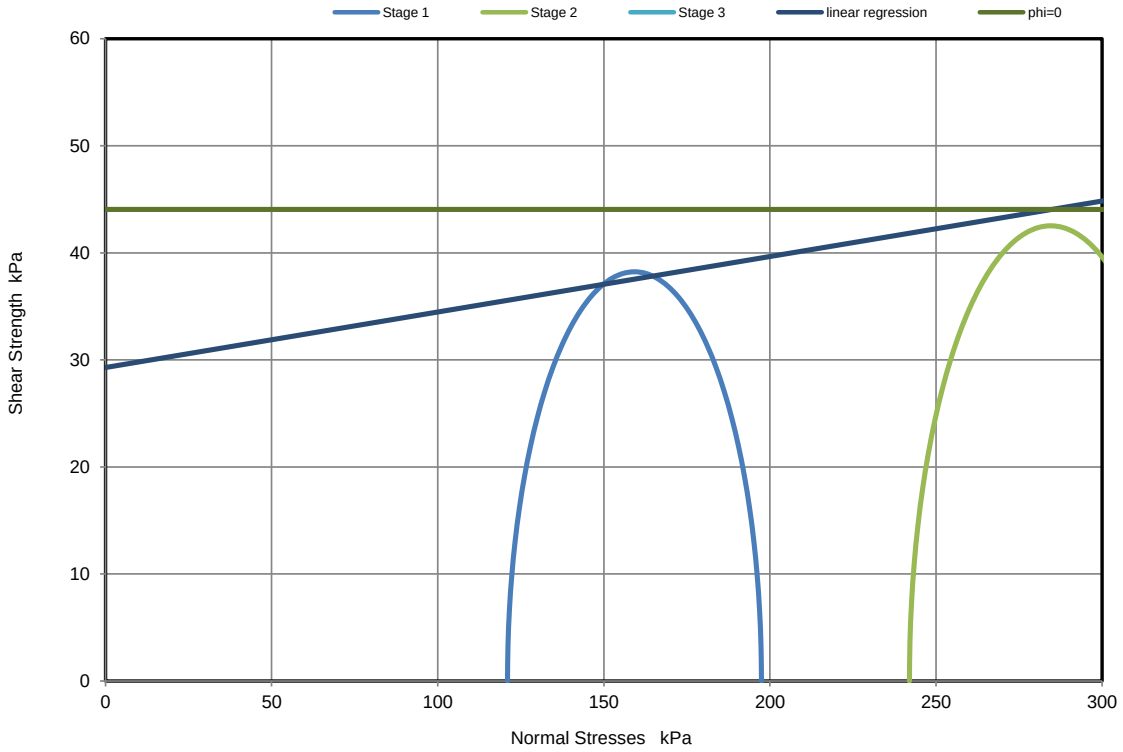


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH201
Project Name	Project Sakura	Sample No.	18
Soil Description	Brown Sandy Silty CLAY	Depth Top	13.50
		Depth Base	13.95
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

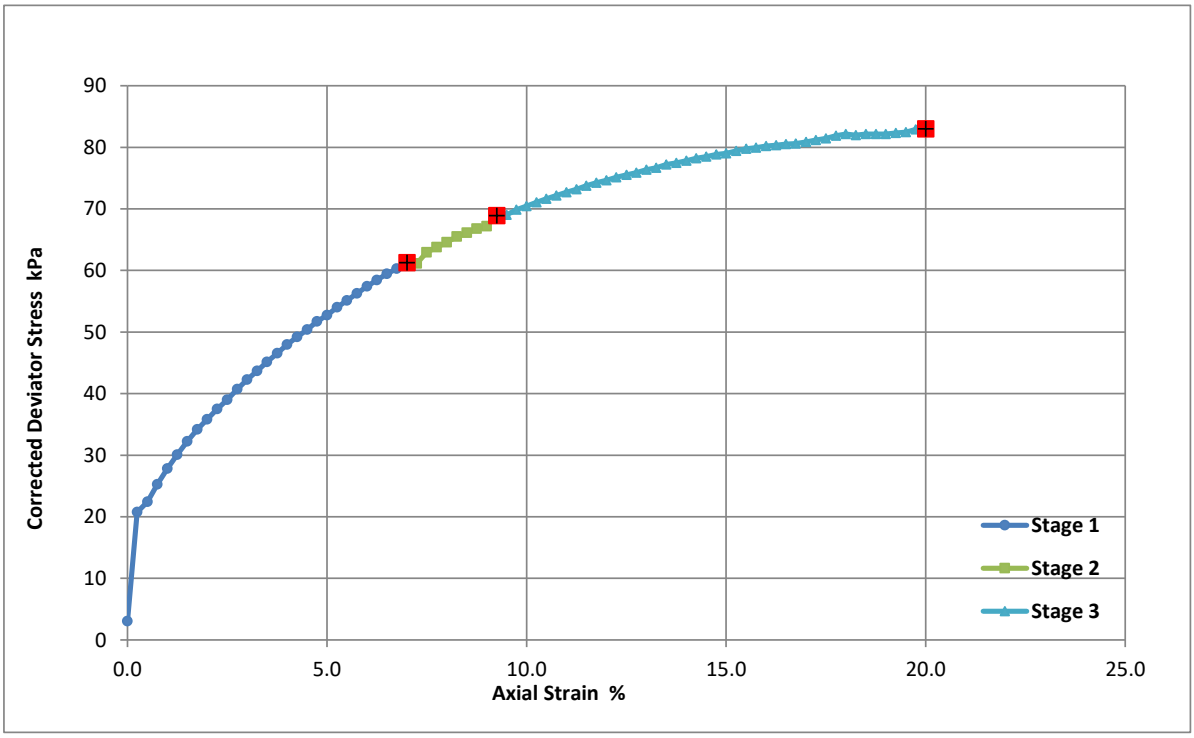
Mohr Circles



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Average c_u	44	kPa	ϕ_u	3	°
			c_u	29	kPa

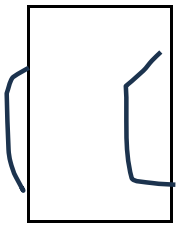
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH201
Project Name	Project Sakura	Sample No.	22
Soil Description	Brown Silty CLAY	Depth Top	16.50
		Depth Base	16.95
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	22		
Bulk Density (Mg/m^3)	2.33		
Dry Density (Mg/m^3)	1.91		
Specimen Length (mm)	209.8		
Specimen Diameter (mm)	96.3		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	150	300	450
Deviator Stress (kPa)	61	69	83
Undrained Shear Strength (kPa)	31	34	41
Failure Strain (%)	7.0	9.2	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

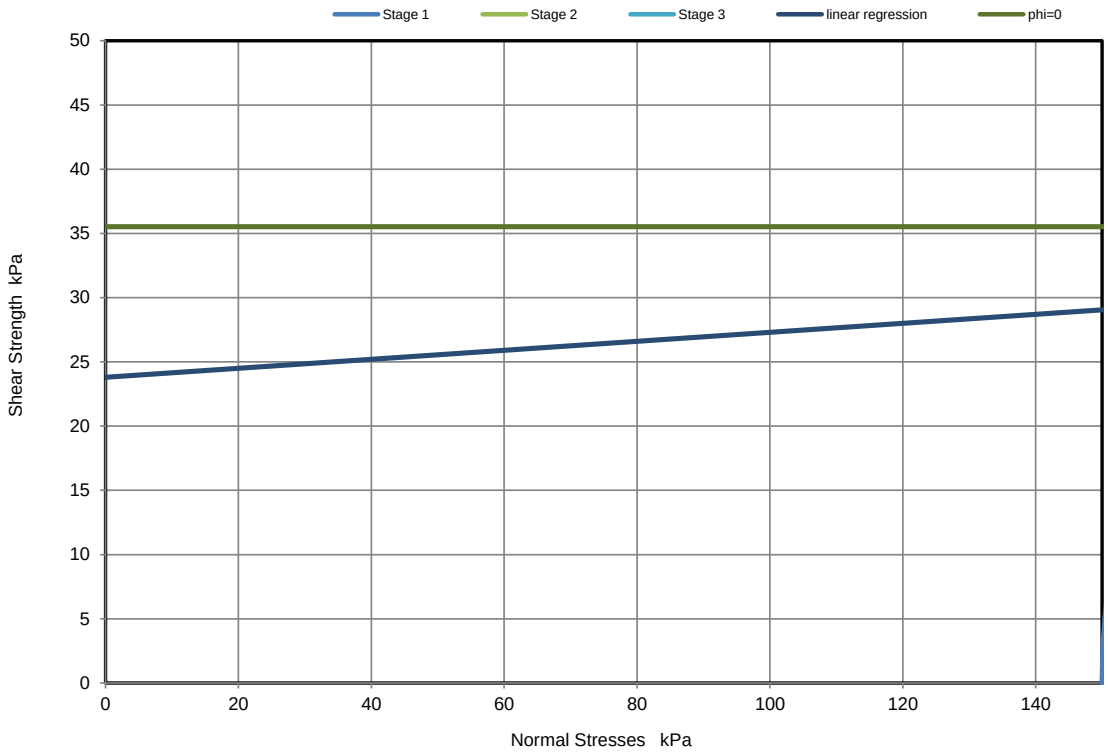


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH201
Project Name	Project Sakura	Sample No.	22
Soil Description	Brown Silty CLAY	Depth Top	16.50
		Depth Base	16.95
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

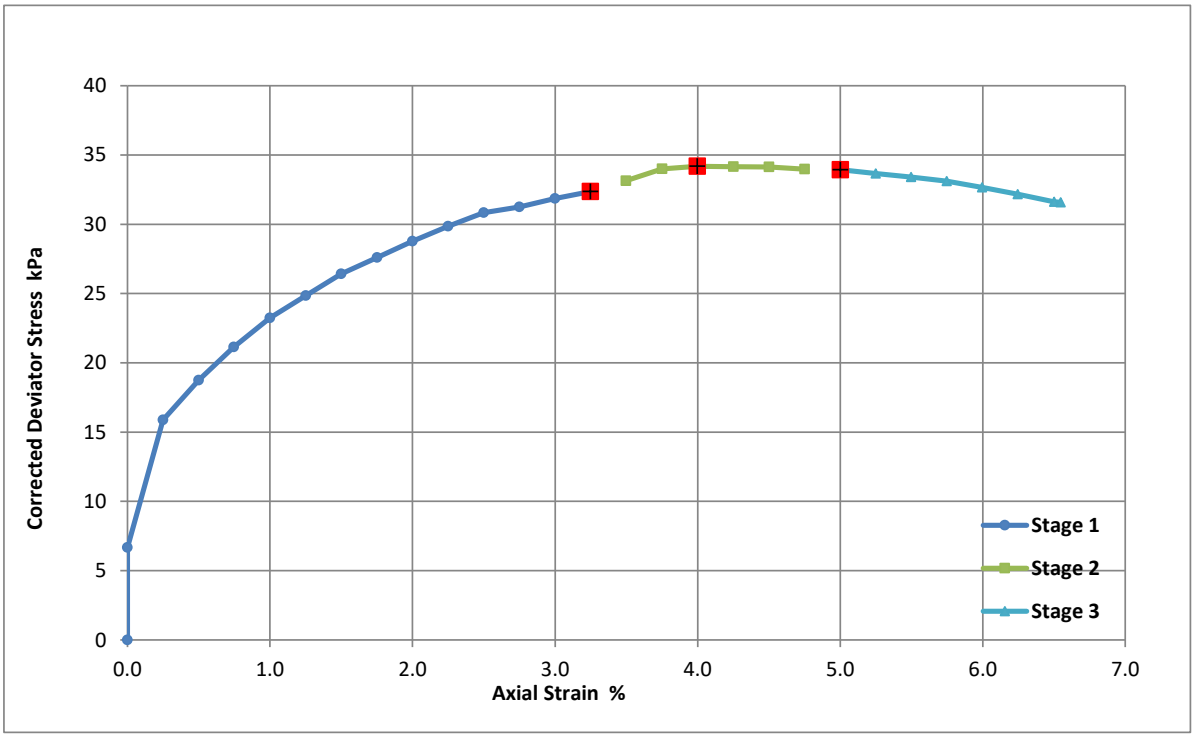
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	36	kPa	ϕ_u	2	°
			c_u	24	kPa

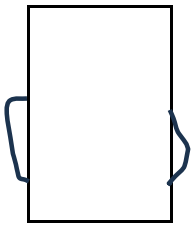
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH201
Project Name	Project Sakura	Sample No.	25
Soil Description	Brown Silty CLAY	Depth Top	19.50
		Depth Base	19.95
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	2.03		
Dry Density (Mg/m^3)	1.63		
Specimen Length (mm)	210.2		
Specimen Diameter (mm)	101.7		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	175	350	525
Deviator Stress (kPa)	32	34	34
Undrained Shear Strength (kPa)	16	17	17
Failure Strain (%)	3.2	4.0	5.0
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

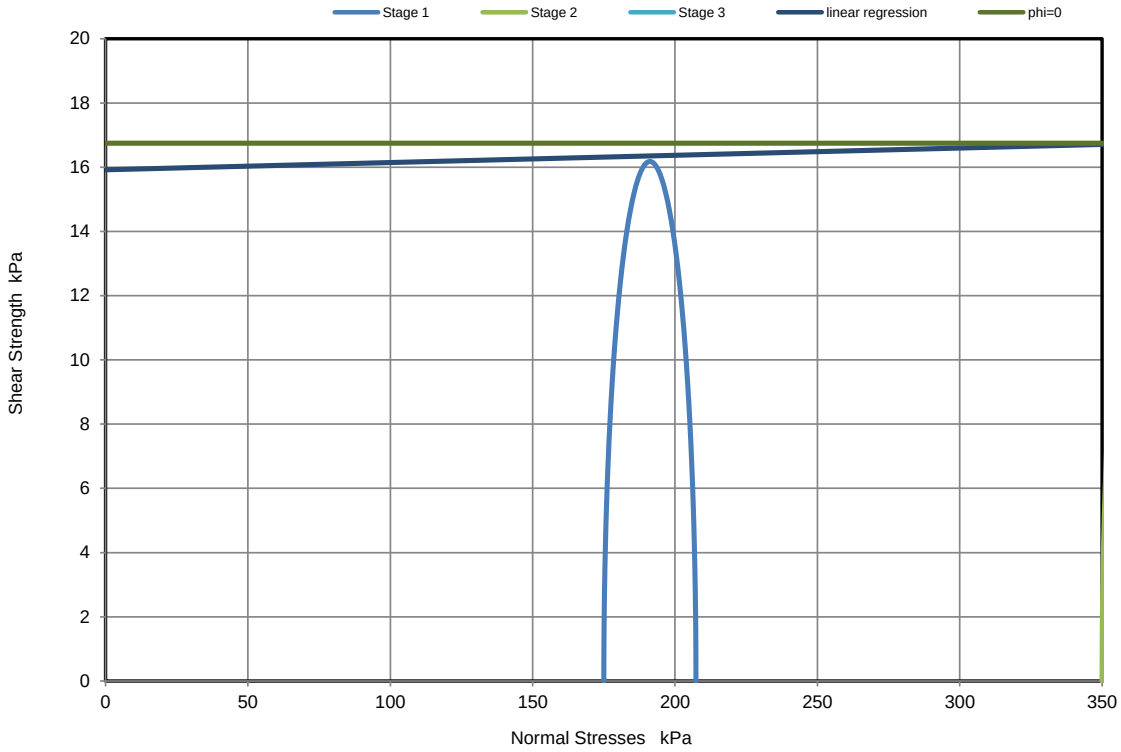


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH201
Project Name	Project Sakura	Sample No.	25
Soil Description	Brown Silty CLAY	Depth Top	19.50
		Depth Base	19.95
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

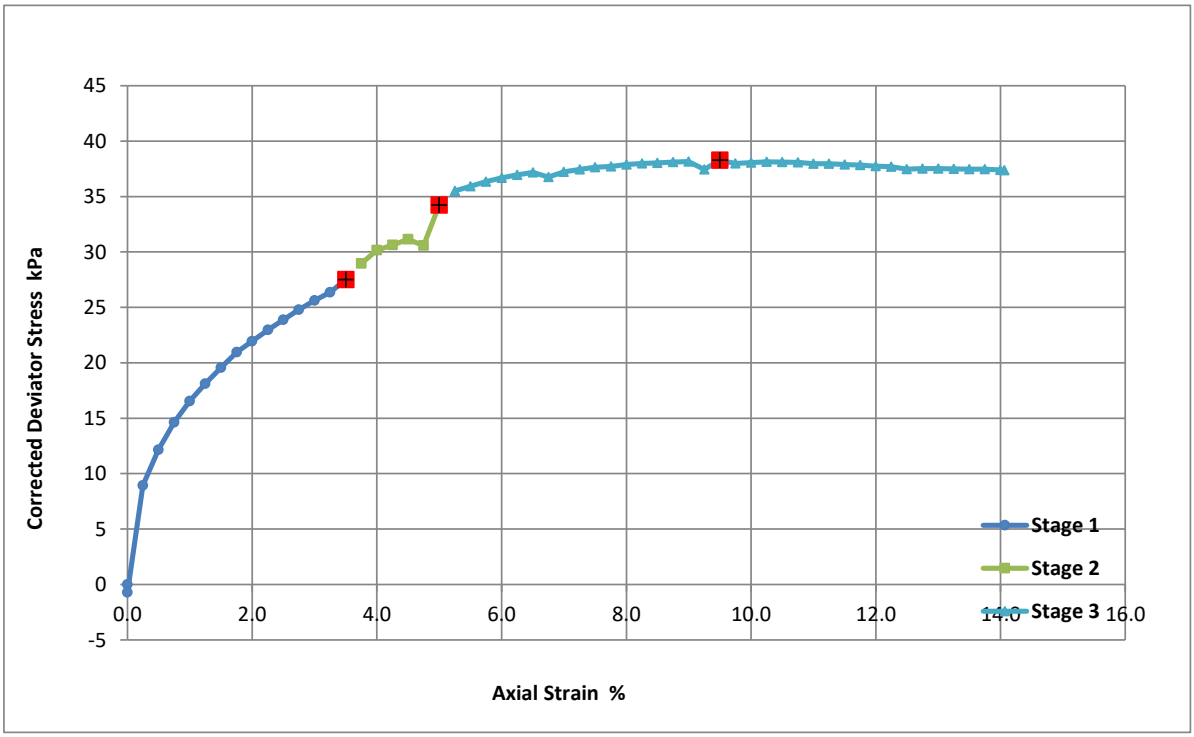
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	17	kPa	ϕ_u	0.1	°
			c_u	16	kPa

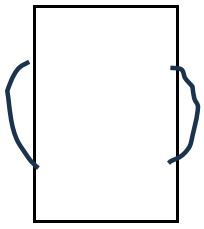
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH202
Project Name	Project Sakura	Sample No.	19
Soil Description	Brown Silty CLAY	Depth Top	10.50
		Depth Base	10.95
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	23		
Bulk Density (Mg/m^3)	1.86		
Dry Density (Mg/m^3)	1.52		
Specimen Length (mm)	210.0		
Specimen Diameter (mm)	105.9		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	95	190	286
Deviator Stress (kPa)	28	34	38
Undrained Shear Strength (kPa)	14	17	19
Failure Strain (%)	3.5	5.0	9.5
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

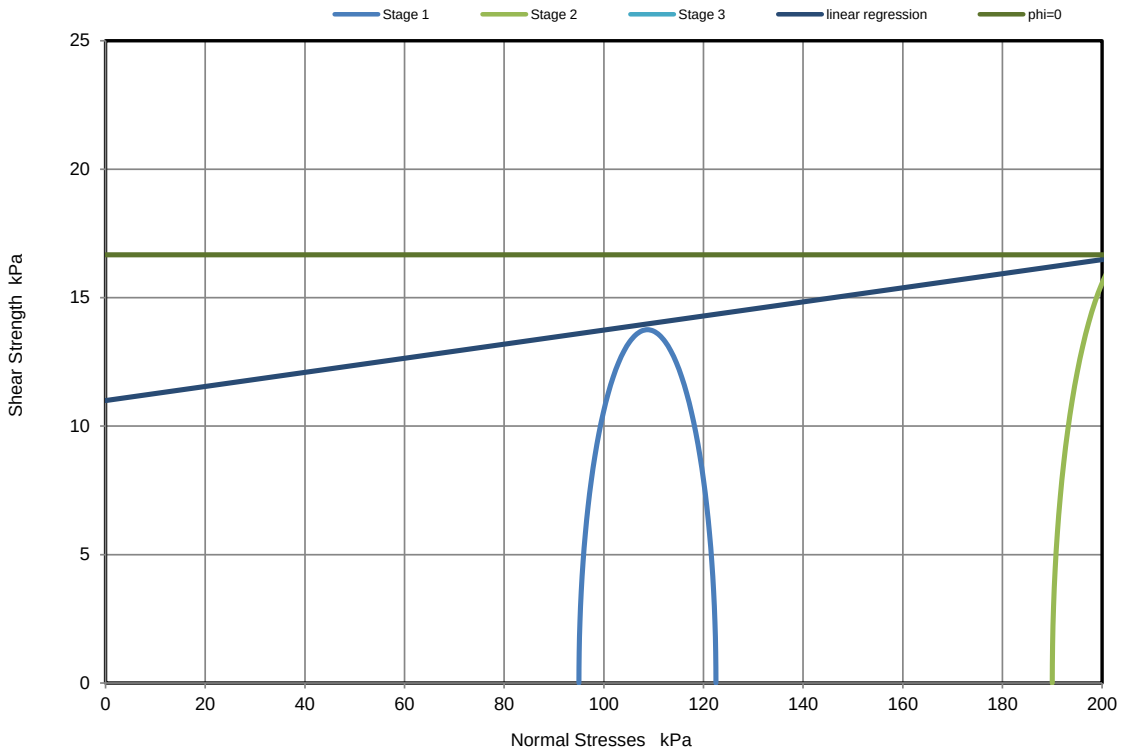


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH202
Project Name	Project Sakura	Sample No.	19
Soil Description	Brown Silty CLAY	Depth Top	10.50
		Depth Base	10.95
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

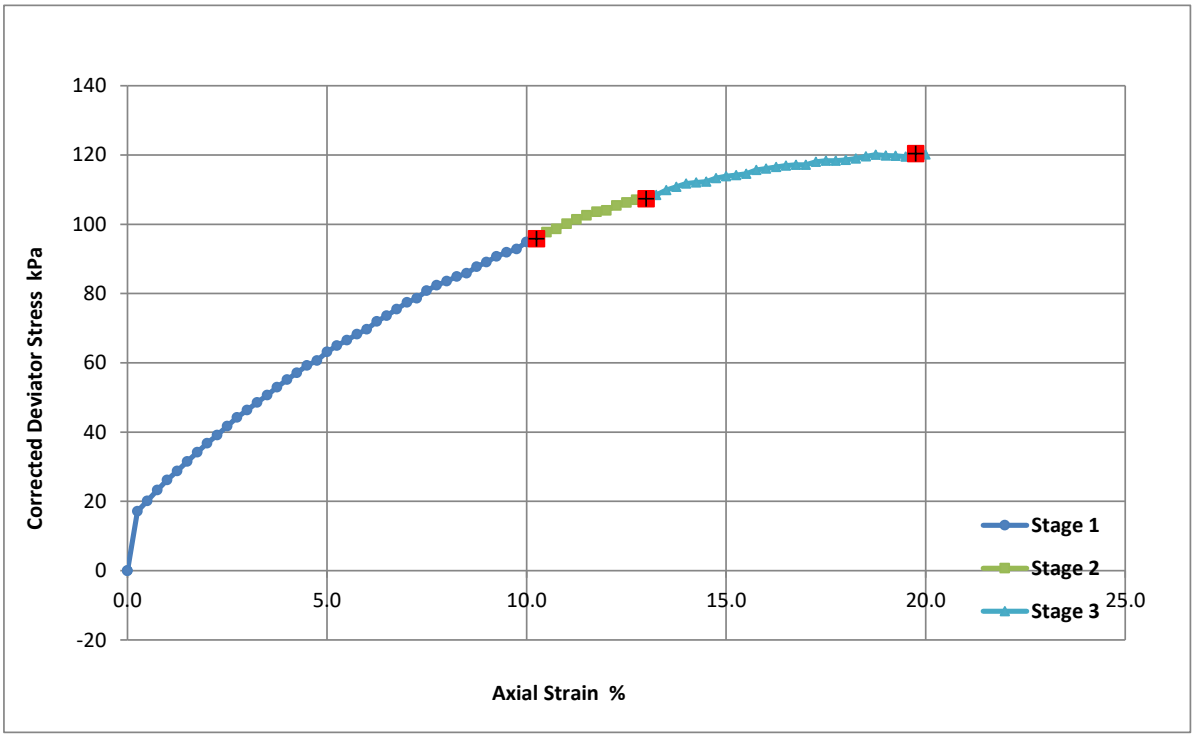
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	17	kPa	ϕ_u	1.6	°
			c_u	11	kPa

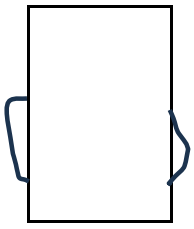
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH202
Project Name	Project Sakura	Sample No.	11
Soil Description	Brown sandy Silty CLAY	Depth Top	5.00
		Depth Base	5.45
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	24		
Bulk Density (Mg/m^3)	2.04		
Dry Density (Mg/m^3)	1.65		
Specimen Length (mm)	208.0		
Specimen Diameter (mm)	100.9		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	45	90	135
Deviator Stress (kPa)	96	107	120
Undrained Shear Strength (kPa)	48	54	60
Failure Strain (%)	10	13	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

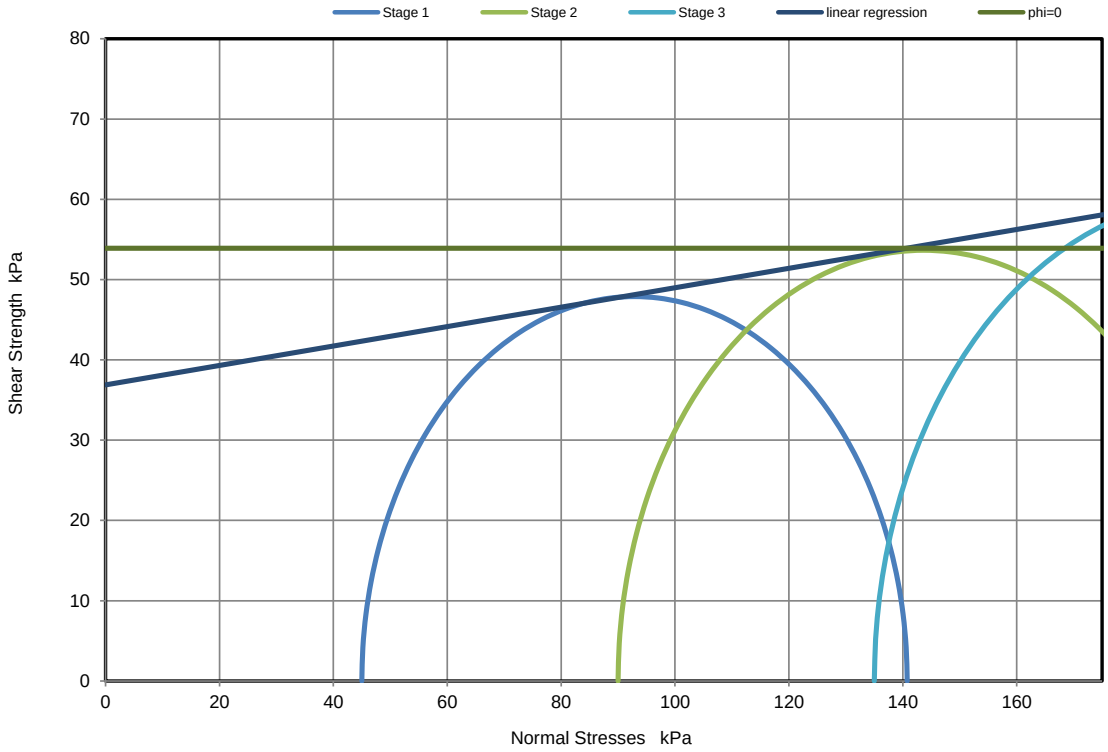


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH202
Project Name	Project Sakura	Sample No.	11
Soil Description	Brown sandy Silty CLAY	Depth Top	5.00
		Depth Base	5.45
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

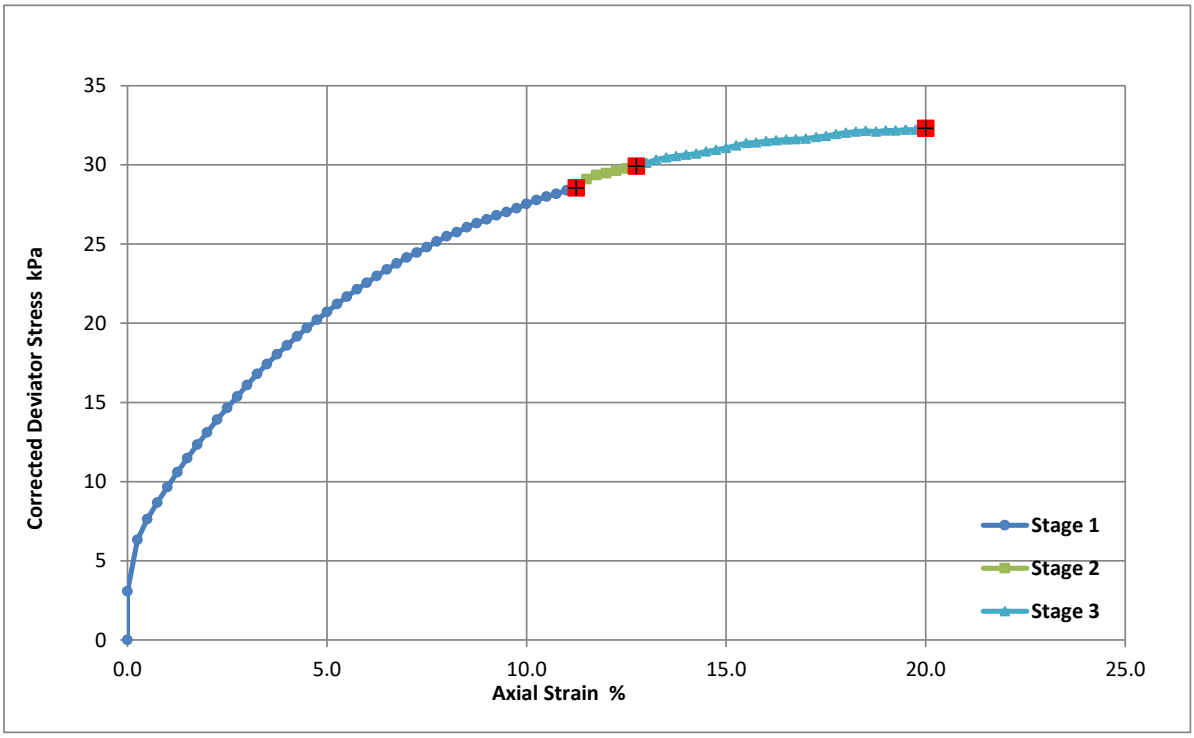
Mohr Circles



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			c_u	37	kPa

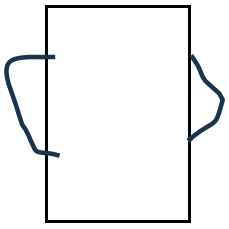
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL	Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9	Contract Number	72769
		Borehole/Pit No.	BH202
Project Name	Project Sakura	Sample No.	15
Soil Description	Brown Gravelly Silty Sandy CLAY	Depth Top	7.50
		Depth Base	7.95
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	20		
Bulk Density (Mg/m^3)	0.41		
Dry Density (Mg/m^3)	0.34		
Specimen Length (mm)	243.0		
Specimen Diameter (mm)	211.6		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	68	135	203
Deviator Stress (kPa)	29	30	32
Undrained Shear Strength (kPa)	14	15	16
Failure Strain (%)	11	13	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

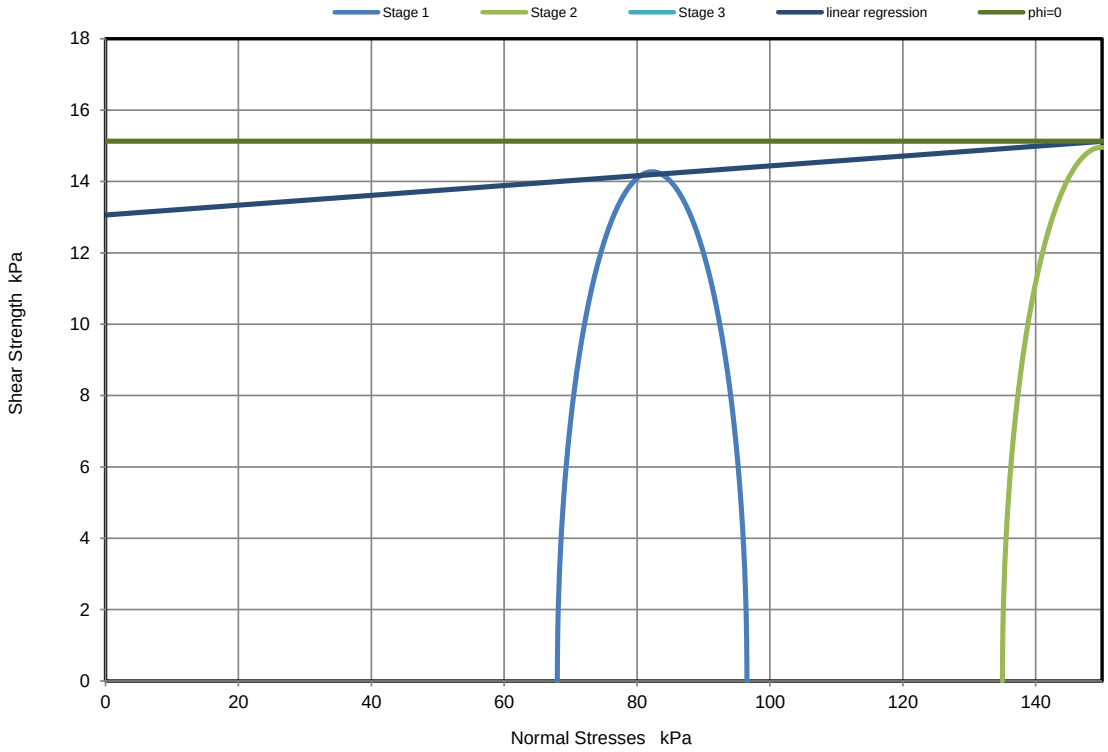


Failure Sketch.

UKAS TESTING
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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH202
Project Name	Project Sakura	Sample No.	15
Soil Description	Brown Gravelly Silty Sandy CLAY	Depth Top	7.50
		Depth Base	7.95
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

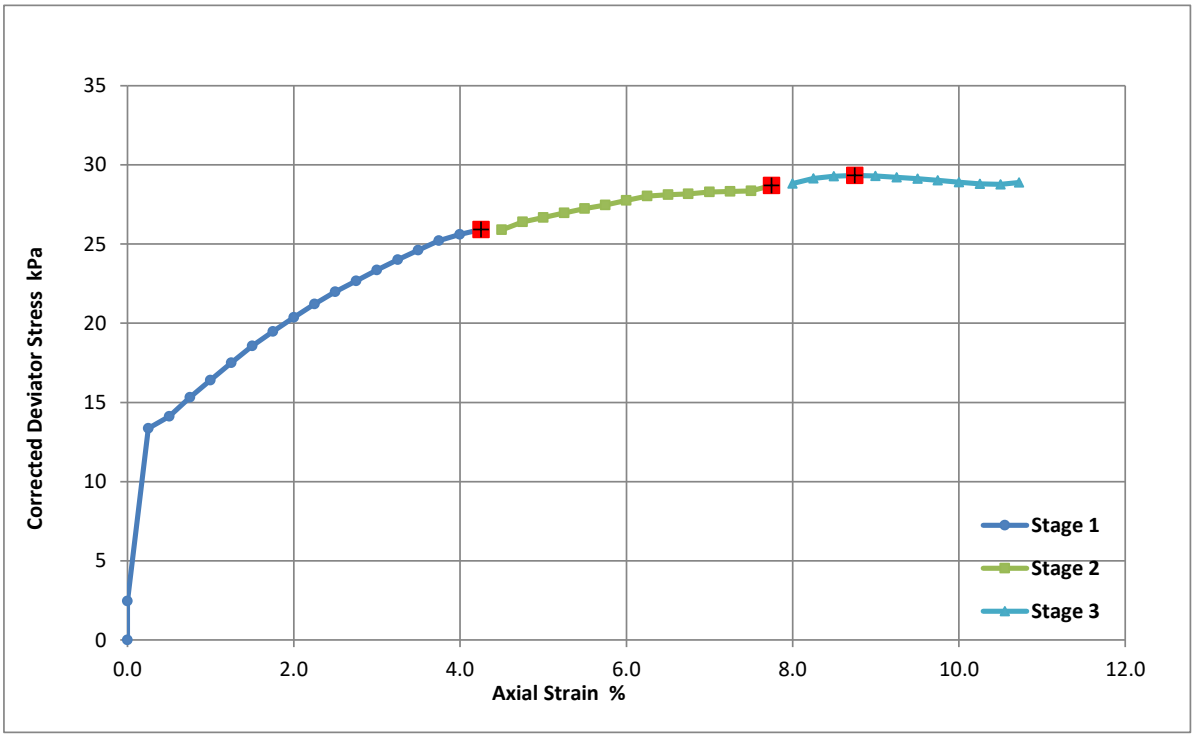
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	15	kPa	ϕ_u	0.8	°
			c_u	13	kPa

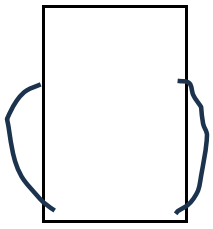
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH203
Project Name	Project Sakura	Sample No.	15
Soil Description	Brown Silty CLAY	Depth Top	13.00
		Depth Base	13.45
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	17		
Bulk Density (Mg/m^3)	2.19		
Dry Density (Mg/m^3)	1.86		
Specimen Length (mm)	209.5		
Specimen Diameter (mm)	100.6		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	75	150	300
Deviator Stress (kPa)	26	29	29
Undrained Shear Strength (kPa)	13	14	15
Failure Strain (%)	4.3	7.7	8.7
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

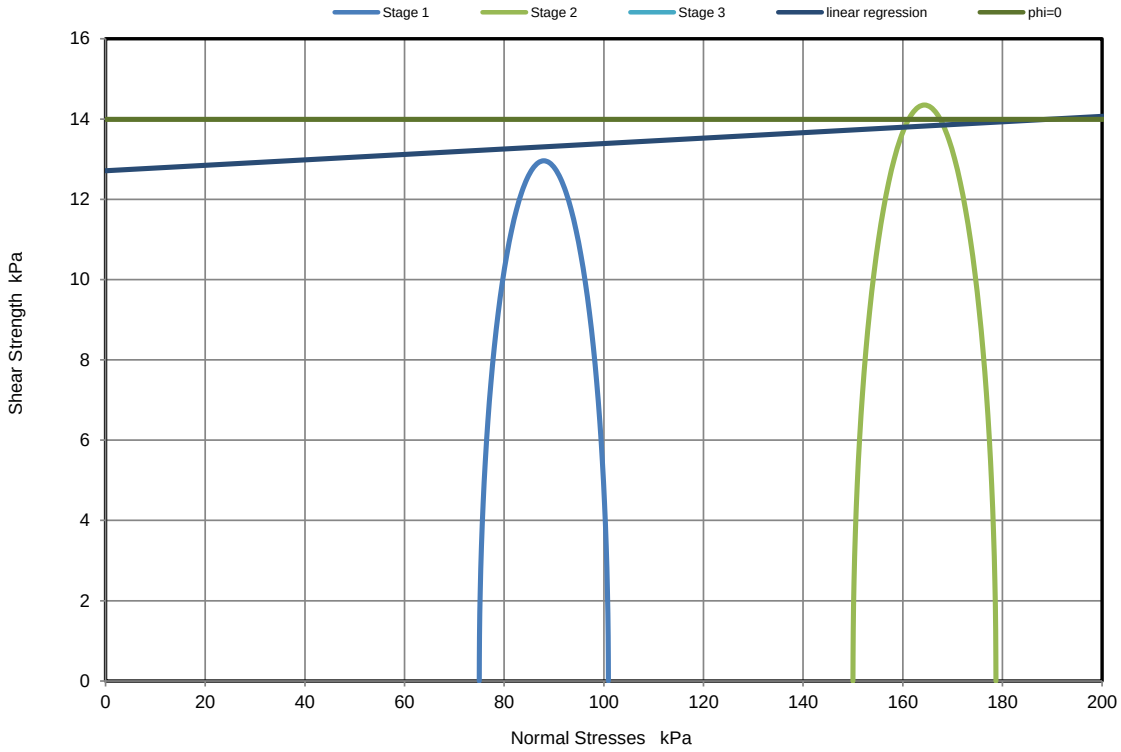


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH203
Project Name	Project Sakura	Sample No.	15
Soil Description	Brown Silty CLAY	Depth Top	13.00
		Depth Base	13.45
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

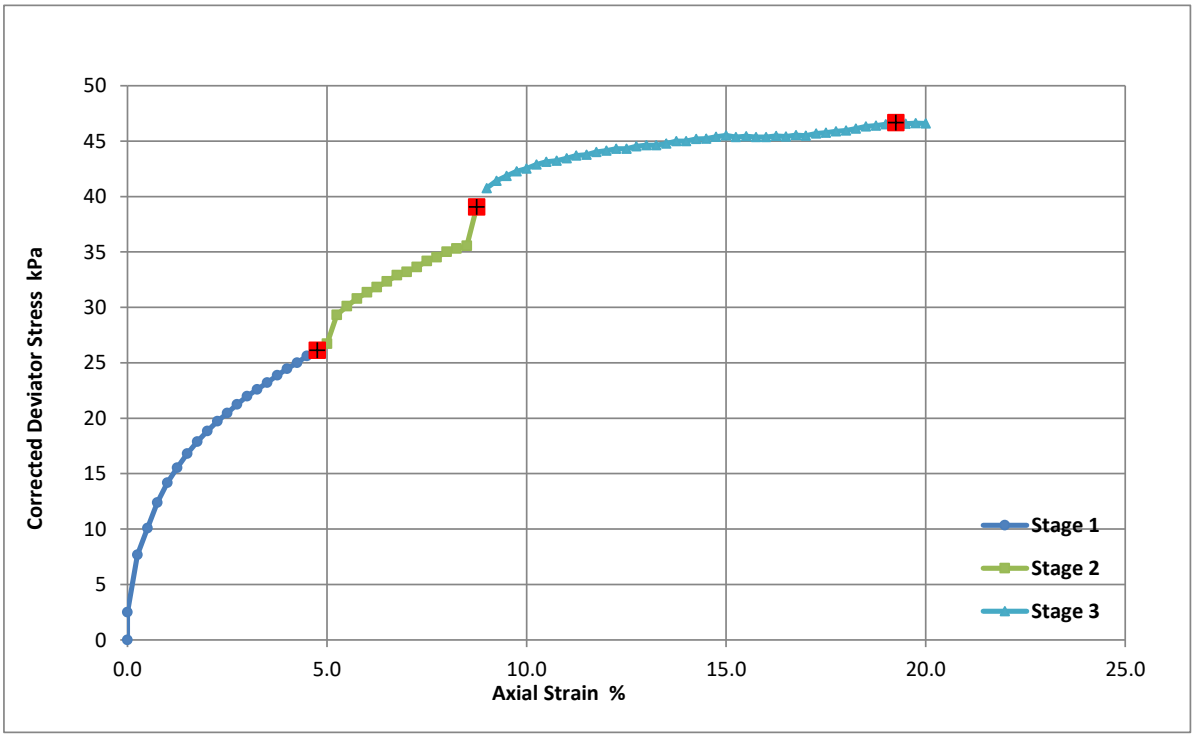
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	14	kPa	ϕ_u	0.4	°
			c_u	13	kPa

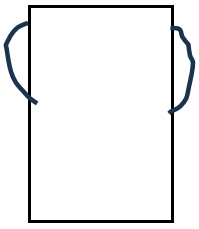
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH203
Project Name	Project Sakura	Sample No.	22
Soil Description	Brown Sandy Silty Wet CLAY	Depth Top	19.00
		Depth Base	19.45
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	1.99		
Dry Density (Mg/m^3)	1.59		
Specimen Length (mm)	210.9		
Specimen Diameter (mm)	104.9		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	170	340	510
Deviator Stress (kPa)	26	39	47
Undrained Shear Strength (kPa)	13	20	23
Failure Strain (%)	4.8	8.8	19
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

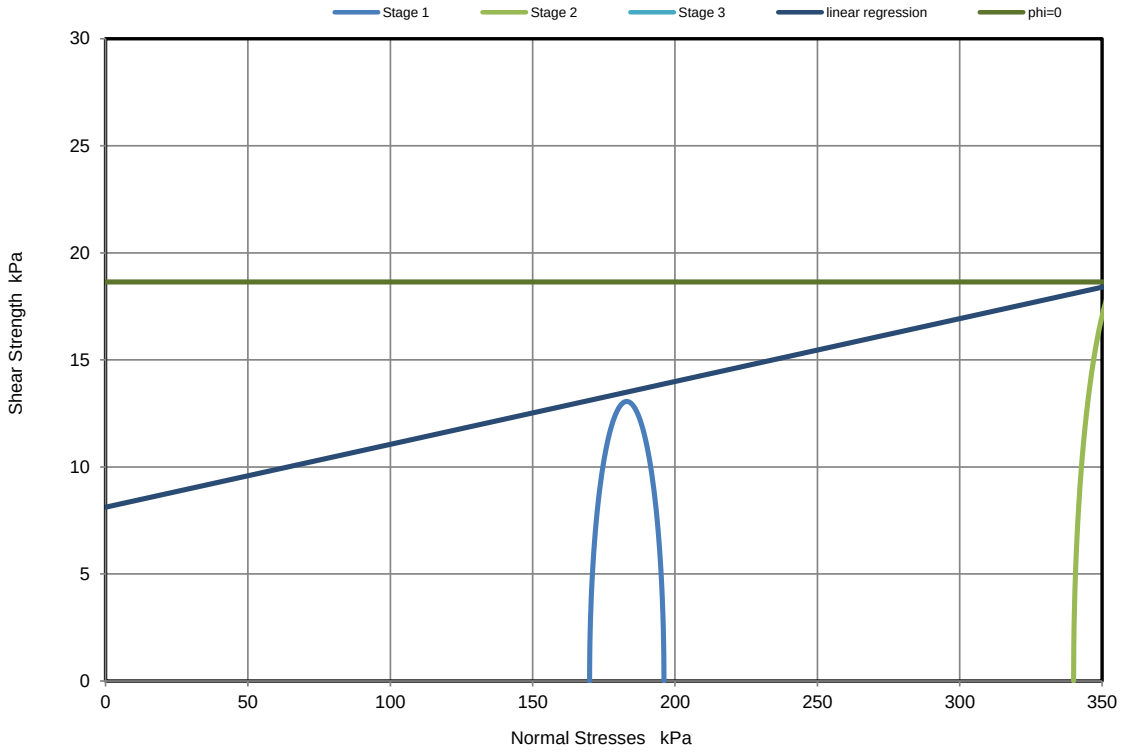


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH203
Project Name	Project Sakura	Sample No.	22
Soil Description	Brown Sandy Silty Wet CLAY	Depth Top	19.00
		Depth Base	19.45
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

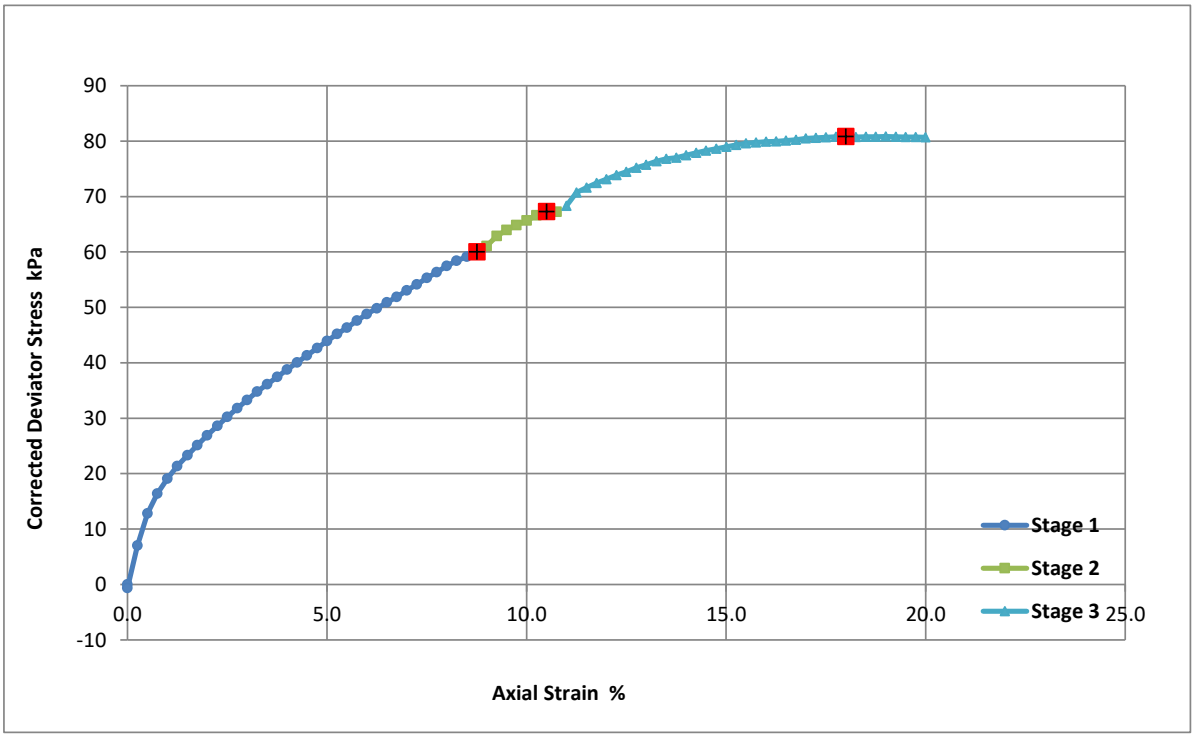
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	19	kPa	ϕ_u	1.7	°
			c_u	8	kPa

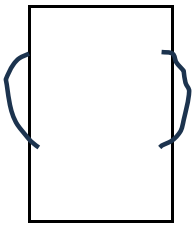
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH203
Project Name	Project Sakura	Sample No.	7
Soil Description	Brown Silty CLAY	Depth Top	7.00
		Depth Base	7.45
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	24		
Bulk Density (Mg/m^3)	2.06		
Dry Density (Mg/m^3)	1.66		
Specimen Length (mm)	206.8		
Specimen Diameter (mm)	100.8		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	63	125	250
Deviator Stress (kPa)	60	67	81
Undrained Shear Strength (kPa)	30	34	40
Failure Strain (%)	8.8	10	18
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

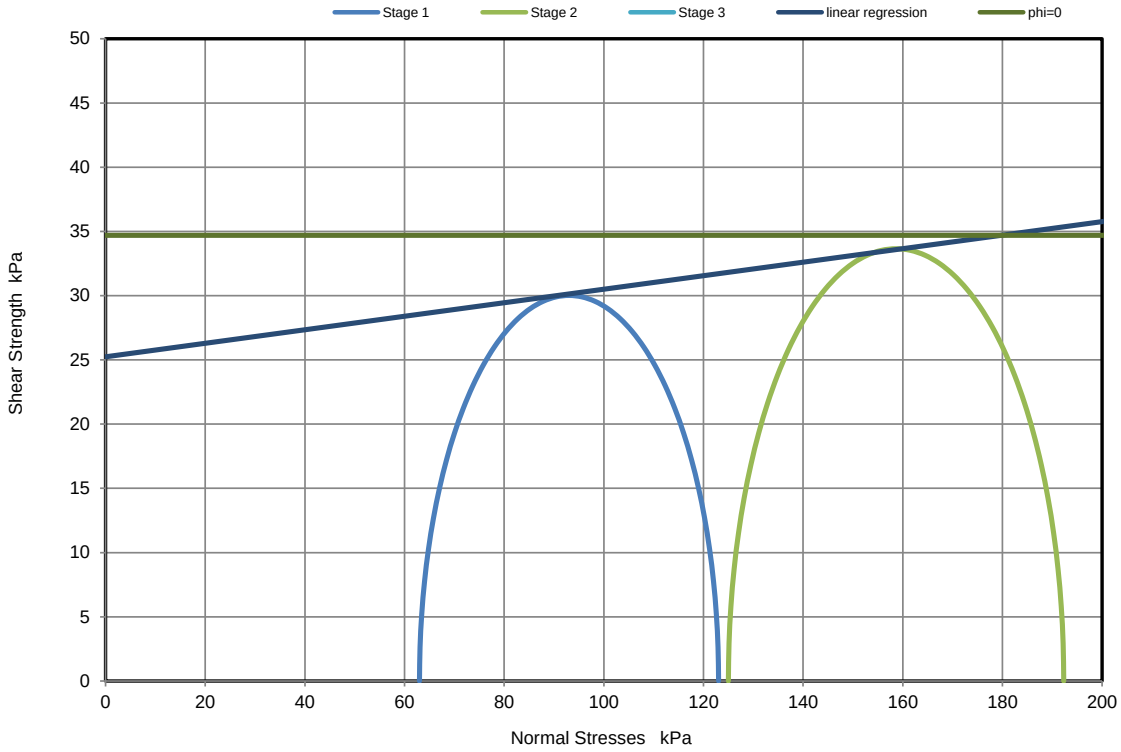


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH203
Project Name	Project Sakura	Sample No.	7
Soil Description	Brown Silty CLAY	Depth Top	7.00
		Depth Base	7.45
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

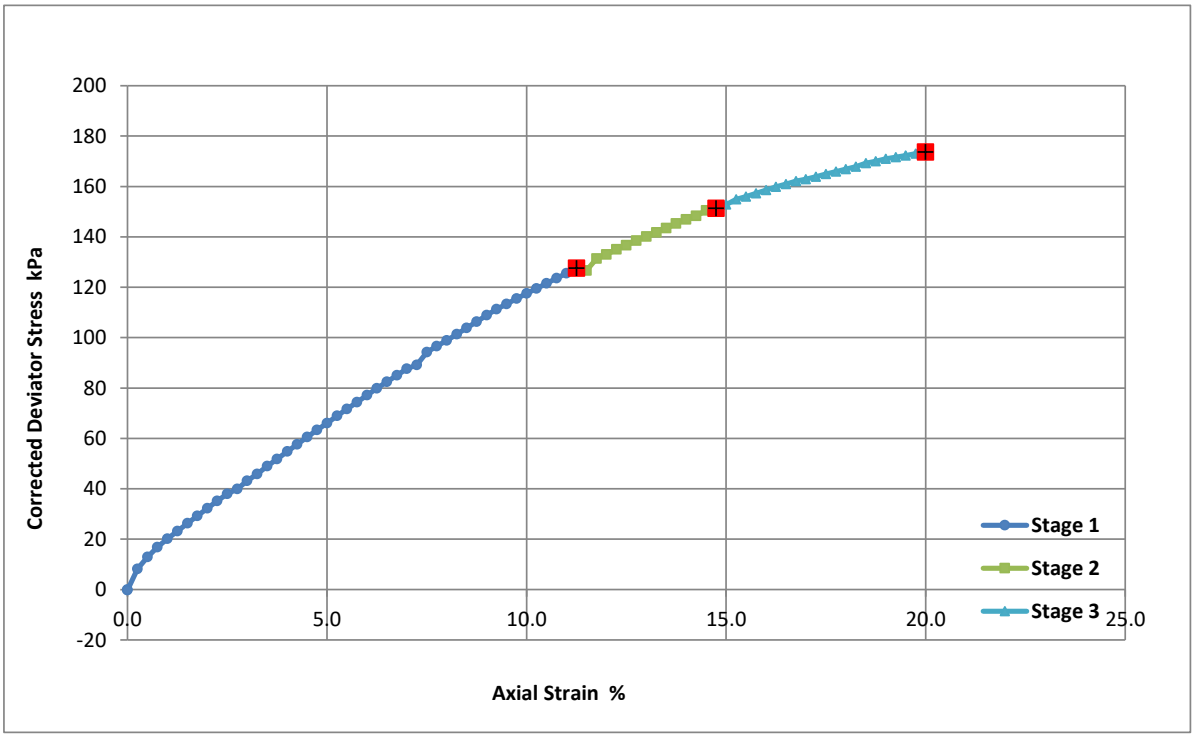
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	35	kPa	ϕ_u	3	°
			c_u	25	kPa

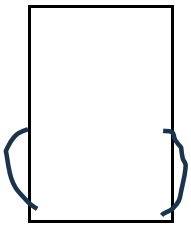
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH204
Project Name	Project Sakura	Sample No.	15
Soil Description	Brown Silty Sandy CLAY	Depth Top	10.00
		Depth Base	10.45
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	1.99		
Dry Density (Mg/m^3)	1.59		
Specimen Length (mm)	210.9		
Specimen Diameter (mm)	104.9		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	95	190	285
Deviator Stress (kPa)	128	151	174
Undrained Shear Strength (kPa)	64	76	87
Failure Strain (%)	11	15	20
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

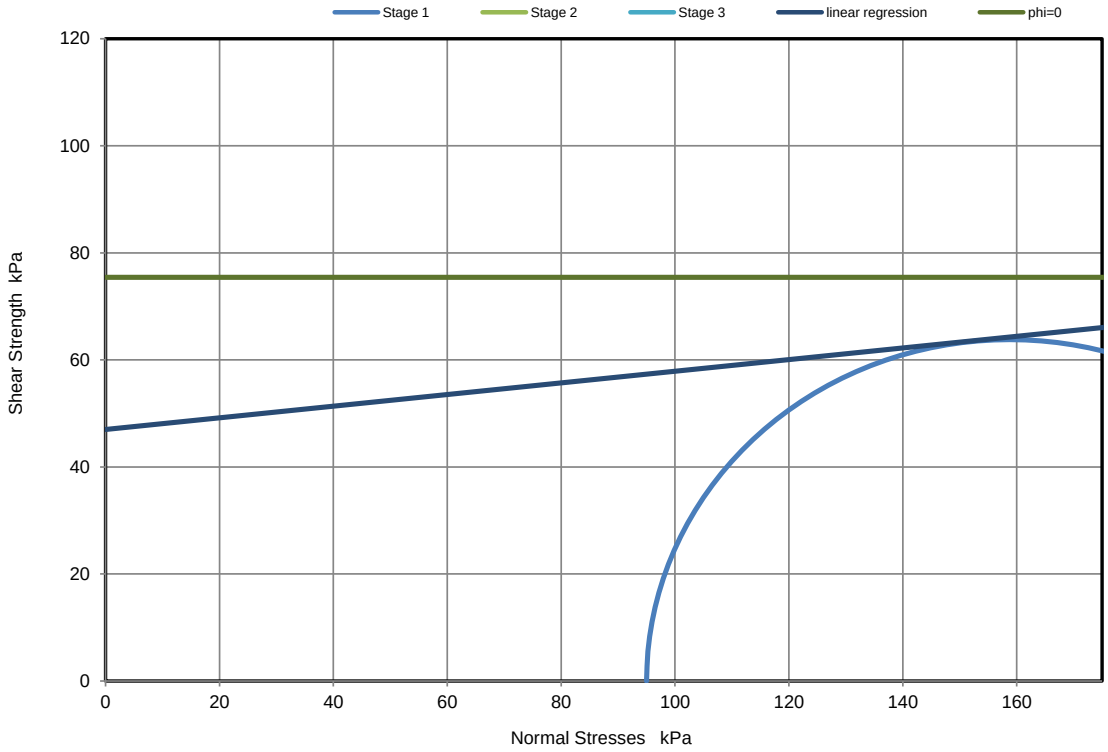


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH204
Project Name	Project Sakura	Sample No.	15
Soil Description	Brown Silty Sandy CLAY	Depth Top	10.00
		Depth Base	10.45
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

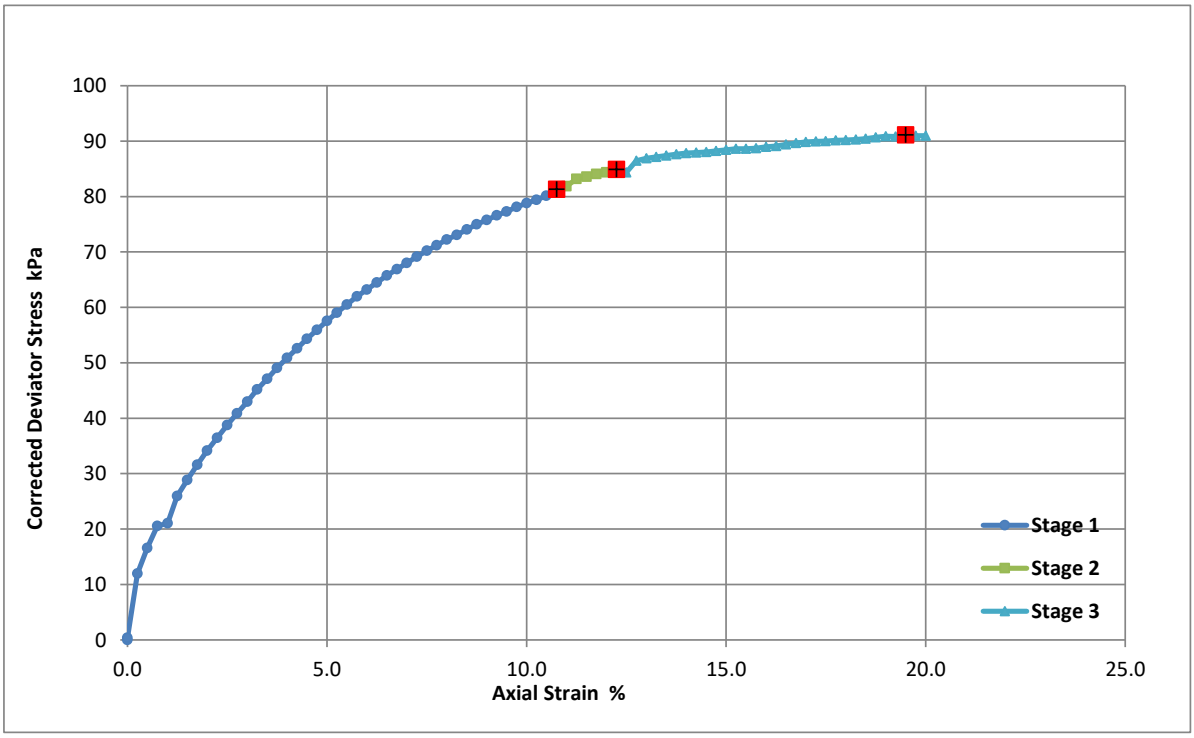
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	75	kPa	ϕ_u	6.2	°
			c_u	47	kPa

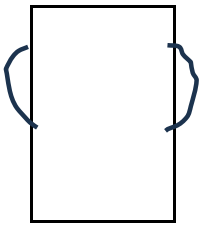
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

	Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9	Contract Number	72769
		Borehole/Pit No.	BH204
Project Name	Project Sakura	Sample No.	21
Soil Description	Brown Silty Sandy CLAY	Depth Top	16.50
		Depth Base	16.95
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	25		
Bulk Density (Mg/m^3)	1.80		
Dry Density (Mg/m^3)	1.44		
Specimen Length (mm)	210.5		
Specimen Diameter (mm)	102.0		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	75	150	300
Deviator Stress (kPa)	81	85	91
Undrained Shear Strength (kPa)	41	42	46
Failure Strain (%)	11	12	19
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

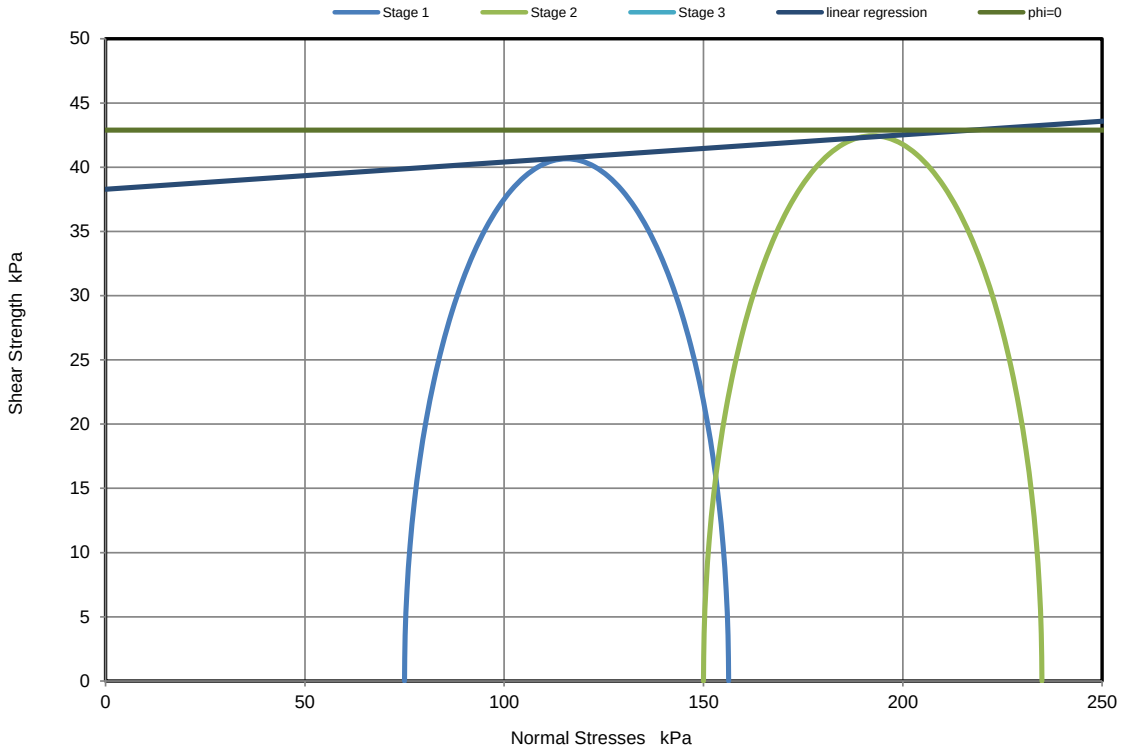


Failure Sketch.

UKAS TESTING
2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH204
Project Name	Project Sakura	Sample No.	21
Soil Description	Brown Silty Sandy CLAY	Depth Top	16.50
		Depth Base	16.95
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

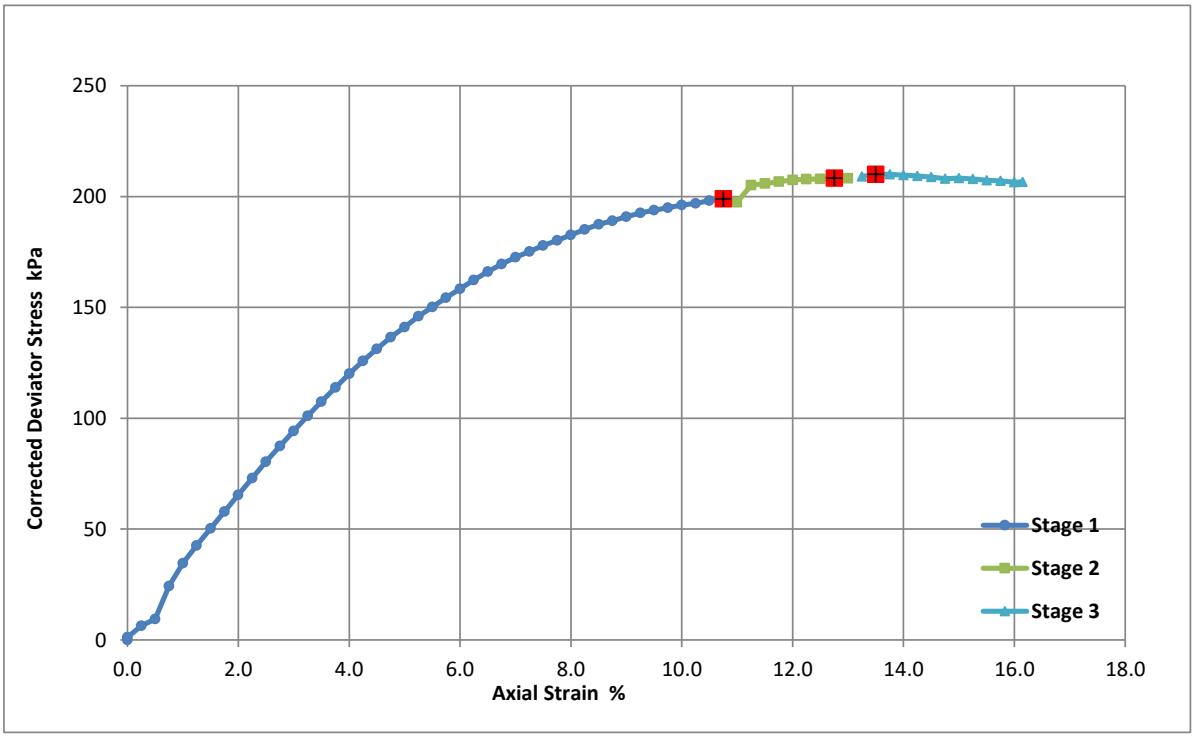
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	43	kPa	ϕ_u	1.2	°
			c_u	38	kPa

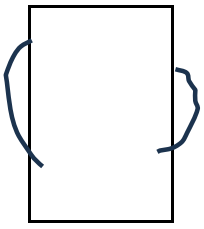
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH204
Project Name	Project Sakura	Sample No.	26
Soil Description	Brown Sandy Silty CLAY	Depth Top	22.50
		Depth Base	22.95
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	20		
Bulk Density (Mg/m^3)	2.12		
Dry Density (Mg/m^3)	1.77		
Specimen Length (mm)	209.9		
Specimen Diameter (mm)	100.6		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	203	405	608
Deviator Stress (kPa)	199	208	210
Undrained Shear Strength (kPa)	100	104	105
Failure Strain (%)	11	13	13
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

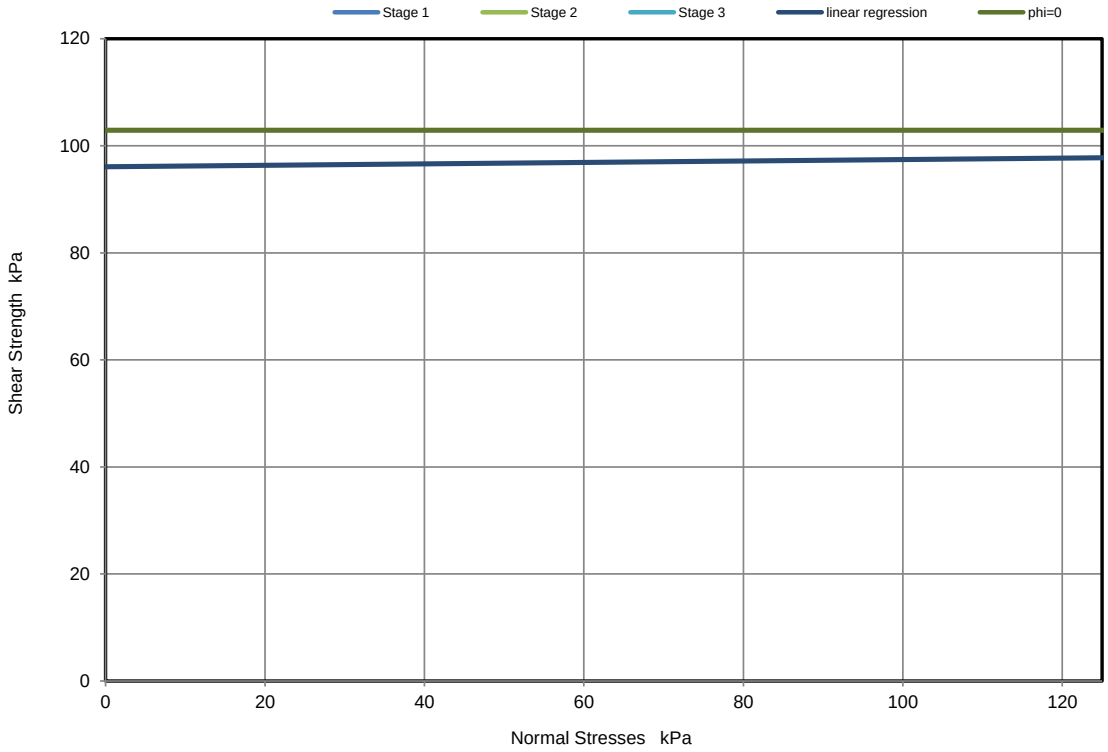


Failure Sketch.

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GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH204
Project Name	Project Sakura	Sample No.	26
Soil Description	Brown Sandy Silty CLAY	Depth Top	22.50
		Depth Base	22.95
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

Mohr Circles

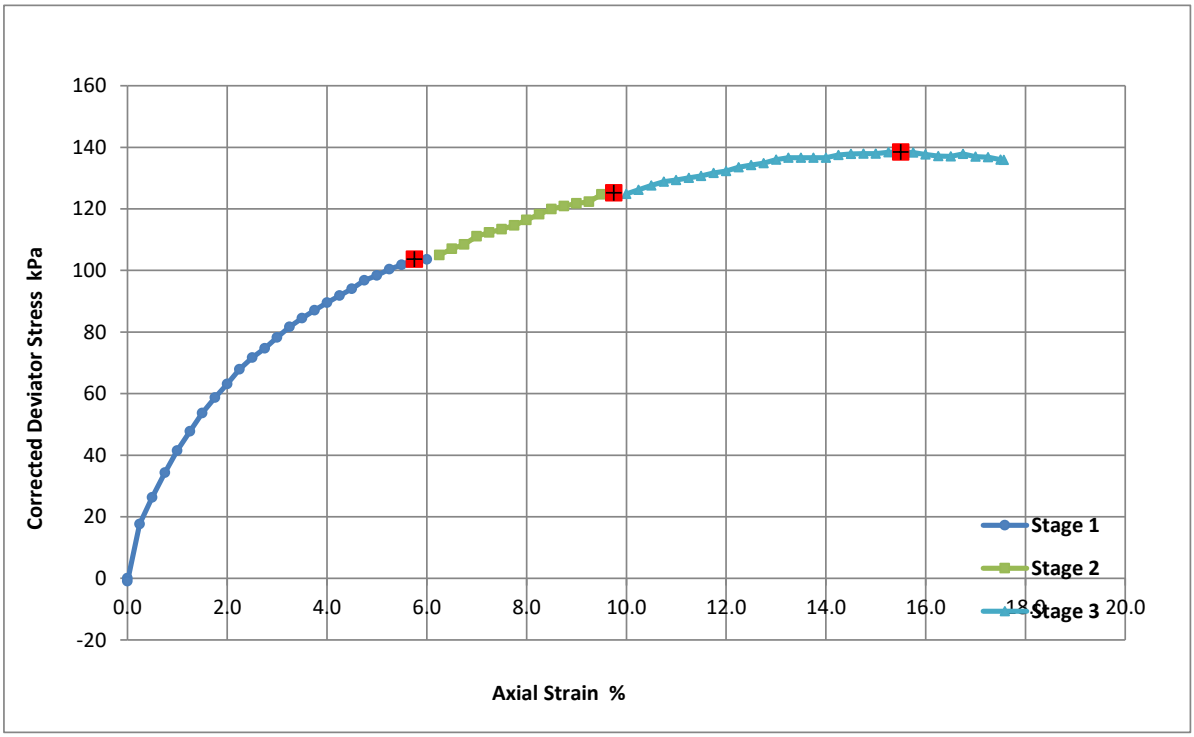


$\phi_u = 0$		
Average c_u	103	kPa

Linear Regression		
ϕ_u	0.8	°
c_u	96	kPa

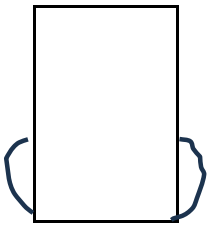
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH205
Project Name	Project Sakura	Sample No.	7
Soil Description	Brown Gravelly Silty CLAY	Depth Top	3.00
		Depth Base	3.45
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	22		
Bulk Density (Mg/m^3)	2.01		
Dry Density (Mg/m^3)	1.65		
Specimen Length (mm)	210.2		
Specimen Diameter (mm)	101.2		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	28	55	83
Deviator Stress (kPa)	104	125	138
Undrained Shear Strength (kPa)	52	63	69
Failure Strain (%)	5.7	9.7	15
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

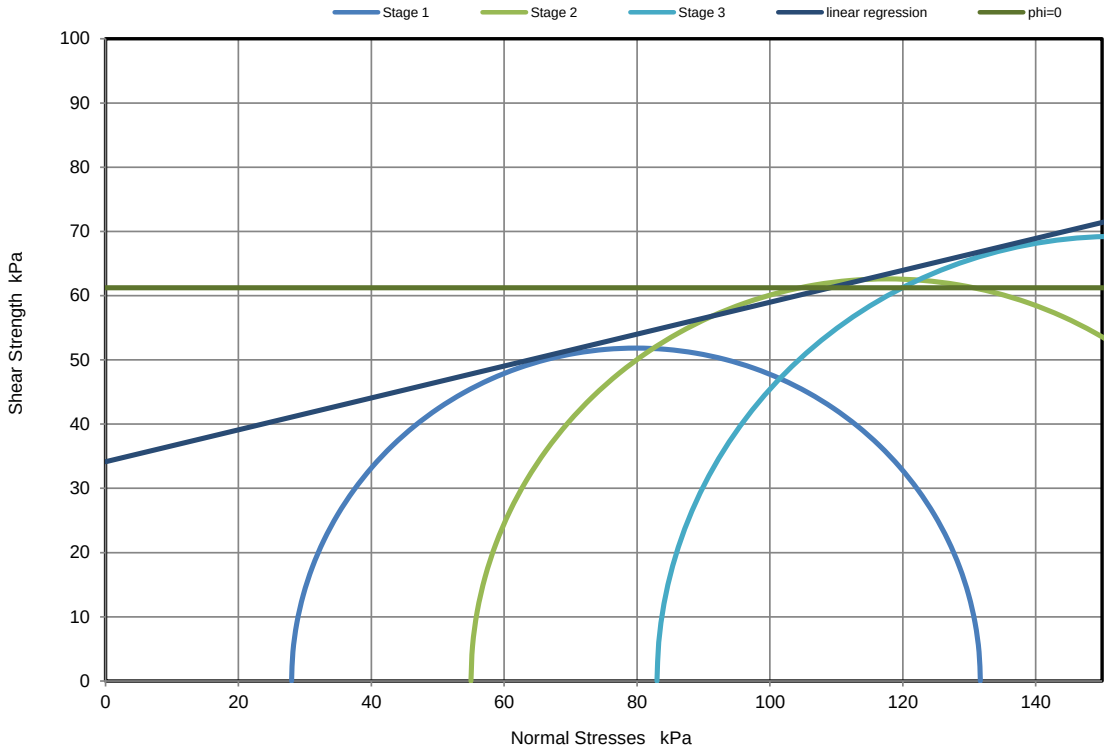


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH205
Project Name	Project Sakura	Sample No.	7
Soil Description	Brown Gravelly Silty CLAY	Depth Top	3.00
		Depth Base	3.45
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

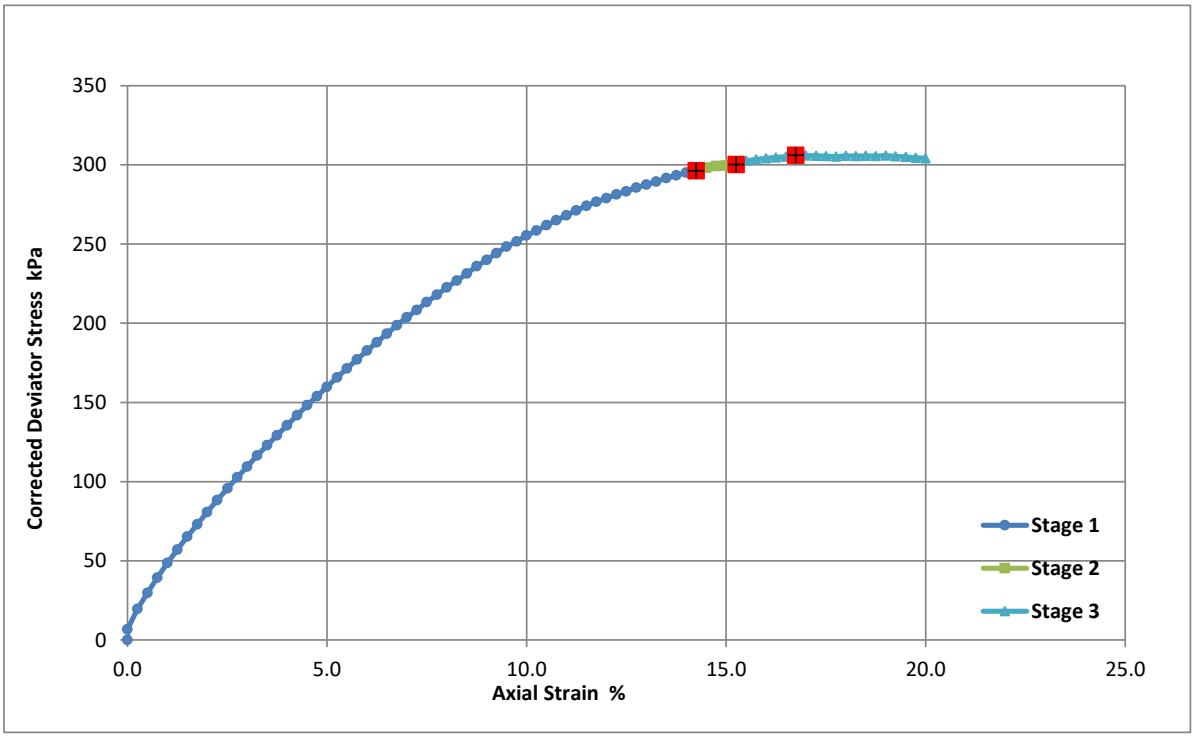
Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	61	kPa	ϕ_u	13.9	°
			c_u	34	kPa

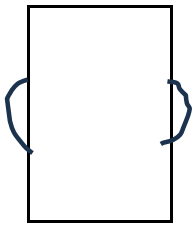
Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH205
Project Name	Project Sakura	Sample No.	11
Soil Description	Brown Sandy Silty CLAY	Depth Top	5.00
		Depth Base	5.45
Date Tested	25/05/2024	Sample Type	U
		Operator	David E



Moisture Content (%)	18		
Bulk Density (Mg/m^3)	1.92		
Dry Density (Mg/m^3)	1.63		
Specimen Length (mm)	210.2		
Specimen Diameter (mm)	103.2		
Stage Number	**1**	**2**	**3**
Cell Pressures (kPa)	45	90	135
Deviator Stress (kPa)	296	300	306
Undrained Shear Strength (kPa)	148	150	153
Failure Strain (%)	14	15	17
Mode Of Failure	Plastic		
Membrane Used/Thickness	Rubber/0.4mm		
Rate of Strain (%/min)	3.00		

Notes.

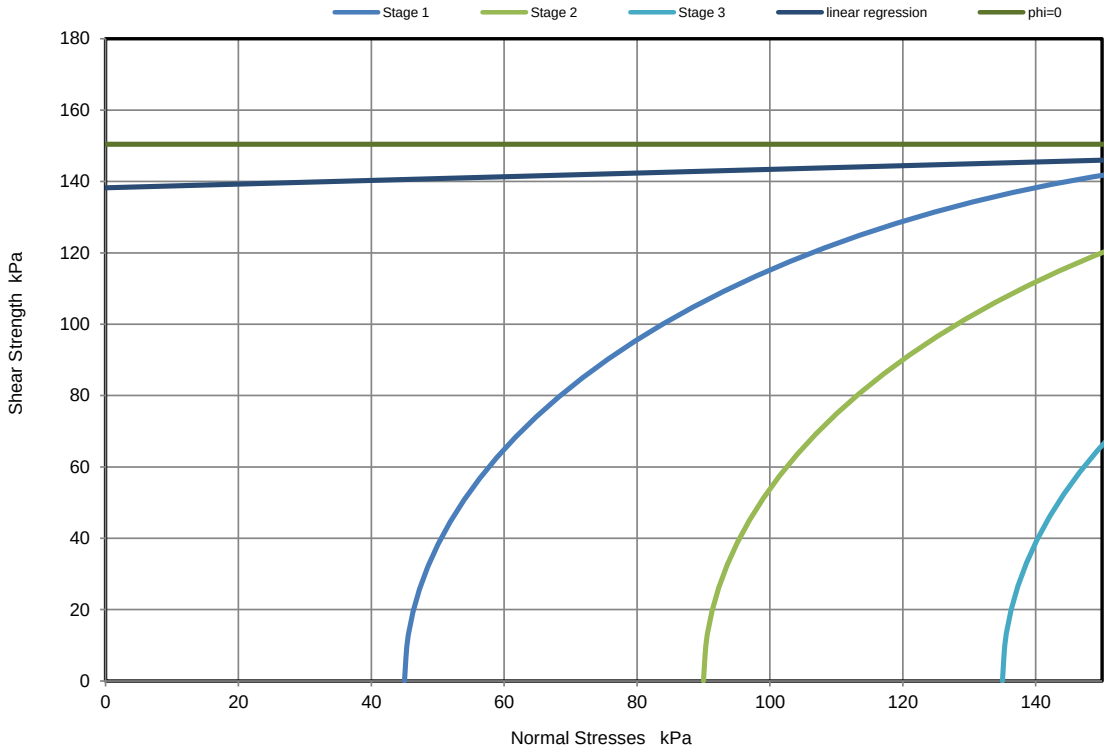


Failure Sketch.

UKAS TESTING 2788

GSTL GEOTECHNICAL SITE & TESTING LABORATORIES	**Multi Stage Unconsolidated-Undrained Triaxial Test BS 1377 : 1990 Part 7 : 9**	Contract Number	72769
		Borehole/Pit No.	BH205
Project Name	Project Sakura	Sample No.	11
Soil Description	Brown Sandy Silty CLAY	Depth Top	5.00
		Depth Base	5.45
Date Tested	25/05/2024	Sample Type	U
		Technician	David E

Mohr Circles



$\phi_u = 0$			Linear Regression		
Average c_u	150	kPa	ϕ_u	3	°
			c_u	138	kPa

Mohr circles and their interpretation is not covered by BS1377. These are provided for information only.

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-01464-1
Initial Date of Issue:	29-Jan-2024
Re-Issue Details:	
Client	Jackson Geo Services
Client Address:	Unit B3 Fram Enterprise Centre Parc Busnes Edwards Llantrisant Pontyclun CF72 8QZ
Contact(s):	Adam Putt Filip Taylor
Project	G24001 Sakura, Wrexham

Quotation No.:	Q23-32820	**Date Received:**	19-Jan-2024
Order No.:		**Date Instructed:**	23-Jan-2024
No. of Samples:	4		
Turnaround (Wkdays):	5	**Results Due:**	29-Jan-2024
Date Approved:	29-Jan-2024		
Approved By:			

Details: Nick Watson, Operations Director

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01464	24-01464	24-01464	24-01464
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1755627	1755628	1755629	1755631
Order No.:				Client Sample Ref.:		4	1	1	8
				Client Sample ID.:		#4764894328430004	#5289840211750001	#5513300646790001	#5513300646790008
				Sample Location:		TP101	TP101A	TP104	TP104
				Sample Type:		SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1.00	1.50	0.50	3.40
				Bottom Depth (m):		1.20	1.60	0.70	3.50
				Date Sampled:		17-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
				Time Sampled:		11:33	11:59	13:45	13:50
				Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**				
ACM Type		U	2192		N/A	-	-	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	14	12	15	13
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones	Stones	None
Soil Texture		N	2040		N/A	Clay	Clay	Clay	Clay
pH at 20C		M	2010		4.0	8.6	8.5	8.6	8.8
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	< 0.40	0.55	< 0.40	0.55
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	0.031	< 0.010	< 0.010
Cyanide (Total)		M	2300	mg/kg	0.50	0.50	< 0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	13	8.7	10	9.6
Cadmium		M	2455	mg/kg	0.10	0.31	0.34	0.17	0.27
Chromium		M	2455	mg/kg	0.5	34	32	35	36
Copper		M	2455	mg/kg	0.50	21	20	23	22
Mercury		M	2455	mg/kg	0.05	0.08	0.05	< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	38	28	38	41
Lead		M	2455	mg/kg	0.50	45	67	32	22
Selenium		M	2455	mg/kg	0.25	0.70	0.45	0.56	0.57
Vanadium		U	2455	mg/kg	0.5	33	27	33	33
Zinc		M	2455	mg/kg	0.50	110	140	81	64
Chromium (Trivalent)		N	2490	mg/kg	1.0	34	32	35	36
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0	< 3.0	< 3.0	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01464	24-01464	24-01464	24-01464
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1755627	1755628	1755629	1755631
Order No.:				Client Sample Ref.:		4	1	1	8
				Client Sample ID.:		#4764894328430004	#5289840211750001	#5513300646790001	#5513300646790008
				Sample Location:		TP101	TP101A	TP104	TP104
				Sample Type:		SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1.00	1.50	0.50	3.40
				Bottom Depth (m):		1.20	1.60	0.70	3.50
				Date Sampled:		17-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
				Time Sampled:		11:33	11:59	13:45	13:50
				Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**				
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	< 5.0	< 5.0	< 5.0	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	< 2.0	< 2.0	< 2.0
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	< 1.0	1.0	1.5	1.8
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	< 5.0	< 5.0	< 5.0	< 5.0
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total EPH >C10-C35 NC	EH_Total_2D_#1	U	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Total EPH >C10-C40 NC	EH_Total_2D_#1	N	2690	mg/kg	10.00	< 10	< 10	< 10	< 10
Total Organic Carbon		M	2625	%	0.20	1.1	0.74	0.82	0.22
Naphthalene		M	2800	mg/kg	0.10	0.11	< 0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	0.12	0.20	< 0.10	< 0.10
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.22	0.50	< 0.10	< 0.10
Pyrene		M	2800	mg/kg	0.10	0.24	0.45	< 0.10	< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	0.13	0.24	< 0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	0.14	0.22	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	0.27	0.35	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	0.12	< 0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	0.16	0.27	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	0.18	< 0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10	< 0.10	< 0.10

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01464	24-01464	24-01464	24-01464
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1755627	1755628	1755629	1755631
Order No.:				Client Sample Ref.:		4	1	1	8
				Client Sample ID.:		#4764894328430004	#5289840211750001	#5513300646790001	#5513300646790008
				Sample Location:		TP101	TP101A	TP104	TP104
				Sample Type:		SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1.00	1.50	0.50	3.40
				Bottom Depth (m):		1.20	1.60	0.70	3.50
				Date Sampled:		17-Jan-2024	17-Jan-2024	17-Jan-2024	17-Jan-2024
				Time Sampled:		11:33	11:59	13:45	13:50
				Asbestos Lab:		NEW-ASB	NEW-ASB	NEW-ASB	NEW-ASB
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**				
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	0.15	< 0.10	< 0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0	2.4	< 2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	0.39	< 0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-01576-1
Initial Date of Issue:	29-Jan-2024
Re-Issue Details:	
Client	Jackson Geo Services
Client Address:	Unit B3 Fram Enterprise Centre Parc Busnes Edwards Llantrisant Pontyclun CF72 8QZ
Contact(s):	Adam Putt Filip Taylor
Project	G24001 Sakura, Wrexham
Quotation No.:	Q23-32820
Order No.:	
No. of Samples:	1
Turnaround (Wkdays):	5
Date Approved:	29-Jan-2024
Approved By:	

Date Received:	19-Jan-2024
Date Instructed:	23-Jan-2024
Results Due:	29-Jan-2024



Details: Stuart Henderson, Technical Manager

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01576
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1755988
Order No.:				Client Sample Ref.:		1
				Client Sample ID.:		#17897457032 30001
				Sample Location:		HP101
				Sample Type:		SOIL
				Top Depth (m):		0.20
				Bottom Depth (m):		0.40
				Date Sampled:		16-Jan-2024
				Time Sampled:		10:45
				Asbestos Lab:		NEW-ASB
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**	
ACM Type		U	2192		N/A	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected
Moisture		N	2030	%	0.020	12
Soil Colour		N	2040		N/A	Brown
Other Material		N	2040		N/A	Stones
Soil Texture		N	2040		N/A	Clay
pH at 20C		M	2010		4.0	8.3
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.79
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	13
Cadmium		M	2455	mg/kg	0.10	0.40
Chromium		M	2455	mg/kg	0.5	27
Copper		M	2455	mg/kg	0.50	22
Mercury		M	2455	mg/kg	0.05	0.07
Nickel		M	2455	mg/kg	0.50	38
Lead		M	2455	mg/kg	0.50	51
Selenium		M	2455	mg/kg	0.25	1.3
Vanadium		U	2455	mg/kg	0.5	23
Zinc		M	2455	mg/kg	0.50	220
Chromium (Trivalent)		N	2490	mg/kg	1.0	27
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01576
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1755988
Order No.:				Client Sample Ref.:		1
				Client Sample ID.:		#1789745703230001
				Sample Location:		HP101
				Sample Type:		SOIL
				Top Depth (m):		0.20
				Bottom Depth (m):		0.40
				Date Sampled:		16-Jan-2024
				Time Sampled:		10:45
				Asbestos Lab:		NEW-ASB
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**	
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	< 5.0
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	7.5
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	2.8
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	9.4
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	12
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50
Total EPH >C10-C35 NC	EH_Total_2D_#1	U	2690	mg/kg	10.00	12
Total EPH >C10-C40 NC	EH_Total_2D_#1	N	2690	mg/kg	10.00	15
Total Organic Carbon		M	2625	%	0.20	2.2
Naphthalene		M	2800	mg/kg	0.10	0.85
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	0.35
Anthracene		M	2800	mg/kg	0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.17
Pyrene		M	2800	mg/kg	0.10	0.17
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01576
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1755988
Order No.:				Client Sample Ref.:		1
				Client Sample ID.:		#17897457032 30001
				Sample Location:		HP101
				Sample Type:		SOIL
				Top Depth (m):		0.20
				Bottom Depth (m):		0.40
				Date Sampled:		16-Jan-2024
				Time Sampled:		10:45
				Asbestos Lab:		NEW-ASB
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**	
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
N	Unaccredited
S	This analysis has been subcontracted to a UKAS accredited laboratory that is accredited for this analysis
SN	This analysis has been subcontracted to a UKAS accredited laboratory that is not accredited for this analysis
T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-01628-1
Initial Date of Issue:	29-Jan-2024
Re-Issue Details:	
Client	Jackson Geo Services
Client Address:	Unit B3 Fram Enterprise Centre Parc Busnes Edwards Llantrisant Pontyclun CF72 8QZ
Contact(s):	Adam Putt Filip Taylor
Project	G24001 Sakura
Quotation No.:	Q23-32820
Order No.:	
No. of Samples:	2
Turnaround (Wkdays):	5
Date Approved:	29-Jan-2024
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	22-Jan-2024
Date Instructed:	23-Jan-2024
Results Due:	29-Jan-2024

Results - Soil

Project: G24001 Sakura

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01628	24-01628
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1756173	1756174
				Sample Location:		HP103	HP104
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.50	0.30
				Bottom Depth (m):		0.70	0.50
				Date Sampled:		18-Jan-2024	18-Jan-2024
				Asbestos Lab:		NEW-ASB	NEW-ASB
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	15	17
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones
Soil Texture		N	2040		N/A	Clay	Clay
pH at 20C		M	2010		4.0	7.9	8.8
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.62	0.77
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	< 0.010	0.011
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	9.6	4.9
Cadmium		M	2455	mg/kg	0.10	1.0	0.28
Chromium		M	2455	mg/kg	0.5	29	21
Copper		M	2455	mg/kg	0.50	22	9.2
Mercury		M	2455	mg/kg	0.05	0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	29	15
Lead		M	2455	mg/kg	0.50	82	25
Selenium		M	2455	mg/kg	0.25	0.53	0.27
Vanadium		U	2455	mg/kg	0.5	27	14
Zinc		M	2455	mg/kg	0.50	160	52
Chromium (Trivalent)		N	2490	mg/kg	1.0	29	21
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	3.7	3.5
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	2.3	1.2
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	< 2.0	< 2.0
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0	< 3.0
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	11	8.1
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	11	< 10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05

Results - Soil

Project: G24001 Sakura

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01628	24-01628
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1756173	1756174
				Sample Location:		HP103	HP104
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.50	0.30
				Bottom Depth (m):		0.70	0.50
				Date Sampled:		18-Jan-2024	18-Jan-2024
				Asbestos Lab:		NEW-ASB	NEW-ASB
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**		
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	3.5	3.1
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	17	17
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	5.5	3.0
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	21	20
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	26	23
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50
Total EPH >C10-C35 NC	EH_Total_2D_#1	U	2690	mg/kg	10.00	31	28
Total EPH >C10-C40 NC	EH_Total_2D_#1	N	2690	mg/kg	10.00	37	31
Total Organic Carbon		M	2625	%	0.20	0.95	0.94
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

Key

U	UKAS accredited
M	MCERTS and UKAS accredited
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<	"less than"
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SOP	Standard operating procedure
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None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
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If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-01635-1
Initial Date of Issue:	29-Jan-2024
Re-Issue Details:	
Client	Jackson Geo Services
Client Address:	Unit B3 Fram Enterprise Centre Parc Busnes Edwards Llantrisant Pontyclun CF72 8QZ
Contact(s):	Adam Putt
Project	G24001 Sakura
Quotation No.:	Q23-32820
Order No.:	
No. of Samples:	2
Turnaround (Wkdays):	5
Date Approved:	29-Jan-2024
Approved By:	
Details:	Stuart Henderson, Technical Manager

Date Received:	22-Jan-2024
Date Instructed:	23-Jan-2024
Results Due:	29-Jan-2024

Results - Soil

Project: G24001 Sakura

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01635	24-01635
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1756183	1756185
Order No.:				Client Sample Ref.:		1	1
				Sample Location:		TP105	TP103
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.50	0.30
				Bottom Depth (m):		0.60	0.50
				Date Sampled:		17-Jan-2024	17-Jan-2024
				Asbestos Lab:		DURHAM	DURHAM
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	9.5	15
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones
Soil Texture		N	2040		N/A	Clay	Clay
pH at 20C		M	2010		4.0	5.5	8.3
Boron (Hot Water Soluble)		M	2120	mg/kg	0.40	0.67	0.60
Sulphate (2:1 Water Soluble) as SO4		M	2120	g/l	0.010	0.046	< 0.010
Cyanide (Total)		M	2300	mg/kg	0.50	< 0.50	< 0.50
Arsenic		M	2455	mg/kg	0.5	6.7	10
Cadmium		M	2455	mg/kg	0.10	0.22	0.64
Chromium		M	2455	mg/kg	0.5	19	31
Copper		M	2455	mg/kg	0.50	15	28
Mercury		M	2455	mg/kg	0.05	0.05	0.06
Nickel		M	2455	mg/kg	0.50	22	34
Lead		M	2455	mg/kg	0.50	30	85
Selenium		M	2455	mg/kg	0.25	0.61	0.78
Vanadium		U	2455	mg/kg	0.5	17	31
Zinc		M	2455	mg/kg	0.50	64	350
Chromium (Trivalent)		N	2490	mg/kg	1.0	19	31
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Aliphatic VPH >C5-C6	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C7	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C7-C8	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aliphatic VPH >C6-C8 (Sum)	HS_2D_AL	N	2780	mg/kg	0.10	< 0.10	< 0.10
Aliphatic VPH >C8-C10	HS_2D_AL	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aliphatic VPH >C5-C10	HS_2D_AL	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aliphatic EPH >C10-C12 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	2.0	2.8
Aliphatic EPH >C12-C16 MC	EH_AL_2D_#1	M	2690	mg/kg	1.00	3.0	< 1.0
Aliphatic EPH >C16-C21 MC	EH_AL_2D_#1	M	2690	mg/kg	2.00	2.9	2.1
Aliphatic EPH >C21-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	3.00	< 3.0	4.6
Aliphatic EPH >C35-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	< 10
Total Aliphatic EPH >C10-C35 MC	EH_AL_2D_#1	M	2690	mg/kg	5.00	9.9	10
Total Aliphatic EPH >C10-C40 MC	EH_AL_2D_#1	N	2690	mg/kg	10.00	< 10	10
Aromatic VPH >C5-C7	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05

Results - Soil

Project: G24001 Sakura

Client: Jackson Geo Services				**Chemtest Job No.:**		24-01635	24-01635
Quotation No.: Q23-32820				**Chemtest Sample ID.:**		1756183	1756185
Order No.:				Client Sample Ref.:		1	1
				Sample Location:		TP105	TP103
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.50	0.30
				Bottom Depth (m):		0.60	0.50
				Date Sampled:		17-Jan-2024	17-Jan-2024
				Asbestos Lab:		DURHAM	DURHAM
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**		
Aromatic VPH >C7-C8	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05
Aromatic VPH >C8-C10	HS_2D_AR	U	2780	mg/kg	0.05	< 0.05	< 0.05
Total Aromatic VPH >C5-C10	HS_2D_AR	U	2780	mg/kg	0.25	< 0.25	< 0.25
Aromatic EPH >C10-C12 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0
Aromatic EPH >C12-C16 MC	EH_AR_2D_#1	U	2690	mg/kg	1.00	< 1.0	< 1.0
Aromatic EPH >C16-C21 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	< 2.0	6.8
Aromatic EPH >C21-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	2.00	6.7	17
Aromatic EPH >C35-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	1.00	1.8	1.9
Total Aromatic EPH >C10-C35 MC	EH_AR_2D_#1	U	2690	mg/kg	5.00	7.8	23
Total Aromatic EPH >C10-C40 MC	EH_AR_2D_#1	N	2690	mg/kg	10.00	< 10	25
Total VPH >C5-C10	HS_2D_Total	U	2780	mg/kg	0.50	< 0.50	< 0.50
Total EPH >C10-C35 NC	EH_Total_2D_#1	U	2690	mg/kg	10.00	18	33
Total EPH >C10-C40 NC	EH_Total_2D_#1	N	2690	mg/kg	10.00	19	35
Total Organic Carbon		M	2625	%	0.20	1.5	1.1
Naphthalene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthylene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Acenaphthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluorene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Phenanthrene		M	2800	mg/kg	0.10	0.22	0.18
Anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Fluoranthene		M	2800	mg/kg	0.10	0.18	0.41
Pyrene		M	2800	mg/kg	0.10	0.17	0.40
Benzo[a]anthracene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Chrysene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[b]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[k]fluoranthene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[a]pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Indeno(1,2,3-c,d)Pyrene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Dibenz(a,h)Anthracene		N	2800	mg/kg	0.10	< 0.10	< 0.10
Benzo[g,h,i]perylene		M	2800	mg/kg	0.10	< 0.10	< 0.10
Total Of 16 PAH's		N	2800	mg/kg	2.0	< 2.0	< 2.0
Total Phenols		M	2920	mg/kg	0.10	< 0.10	< 0.10

Test Methods

SOP	Title	Parameters included	Method summary
2010	pH Value of Soils	pH at 20°C	pH Meter
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by 'Aquakem 600' Discrete Analyser using 1,5-diphenylcarbazide.
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.
2690	EPH A/A Split	Aliphatics: >C10–C12, >C12–C16, >C16–C21, >C21– C35, >C35– C40 Aromatics: >C10–C12, >C12–C16, >C16– C21, >C21– C35, >C35– C40	Acetone/Heptane extraction / GCxGC FID detection
2780	VPH A/A Split	Aliphatics: >C5–C6, >C6–C7,>C7–C8,>C8-C10 Aromatics: >C5–C7,>C7-C8,>C8–C10	Water extraction / Headspace GCxGC FID detection
2800	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-MS	Acenaphthene*; Acenaphthylene; Anthracene*; Benzo[a]Anthracene*; Benzo[a]Pyrene*; Benzo[b]Fluoranthene*; Benzo[ghi]Perylene*; Benzo[k]Fluoranthene; Chrysene*; Dibenz[ah]Anthracene; Fluoranthene*; Fluorene*; Indeno[123cd]Pyrene*; Naphthalene*; Phenanthrene*; Pyrene*	Dichloromethane extraction / GC-MS
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.

Report Information

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T	This analysis has been subcontracted to an unaccredited laboratory
I/S	Insufficient Sample
U/S	Unsuitable Sample
N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

Comments or interpretations are beyond the scope of UKAS accreditation
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Uncertainty of measurement for the determinands tested are available upon request
None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

eurofins | Chemtest
Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

UKAS TESTING 2183

Final Report

Report No.:	24-02664-1
Initial Date of Issue:	02-Feb-2024
Re-Issue Details:	
Client	Jackson Geo Services
Client Address:	Unit B3 Fram Enterprise Centre Parc Busnes Edwards Llantrisant Pontyclun CF72 8QZ
Contact(s):	Adam Putt
Project	G24001 Sakura, Wrexham
Quotation No.:	Q22-29781
Date Received:	30-Jan-2024
Order No.:	
Date Instructed:	30-Jan-2024
No. of Samples:	10
Turnaround (Wkdays):	5
Results Due:	05-Feb-2024
Date Approved:	02-Feb-2024
Approved By:	



Details:	Stuart Henderson, Technical Manager

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				**Chemtest Job No.:**		24-02664	24-02664	24-02664	24-02664	24-02664	24-02664	24-02664
Quotation No.: Q22-29781				**Chemtest Sample ID.:**		1759746	1759747	1759748	1759749	1759750	1759751	1759752
Order No.:				Client Sample Ref.:		6	19	29	9	14	9	12
				Client Sample ID.:		#4390449516650006	#4390449516650019	#4390449516650029	#8152309385190009	#8152309385190014	#9902333151490009	#9902333151490012
				Sample Location:		BH101	BH101	BH101	BH102	BH102	TP102	TP102
				Sample Type:		SOIL	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
				Top Depth (m):		1.20	8.00	15.00	2.50	3.70	1.00	3.00
				Bottom Depth (m):		1.65		15.45			1.30	3.50
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**							
Moisture		N	2030	%	0.020	17	19	16	19	20	14	19
Soil Colour		N	2040		N/A	Brown	Brown	Brown	Brown	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Roots	Stones	Stones	None	Stones	None
Soil Texture		N	2040		N/A	Clay	Clay	Loam	Clay	Clay	Clay	Clay
pH (2.5:1) at 20C		N	2010		4.0	[A] 8.0	[A] 8.5	[A] 8.2	[A] 8.0	[A] 8.4	[A] 8.4	[A] 8.3
Sulphate (2:1 Water Soluble) as SO4		U	2120	g/l	0.010	[A] 0.013	[A] 0.022	[A] 0.024	[A] < 0.010	[A] < 0.010	[A] 0.22	[A] 0.32
Total Sulphur		U	2175	%	0.010	[A] 0.076	[A] 0.075	[A] 0.052	[A] 0.058	[A] 0.013	[A] 0.036	[A] 0.044
Sulphate (Acid Soluble)		U	2430	%	0.010	[A] 0.039	[A] 0.024	[A] 0.026	[A] 0.054	[A] 0.011	[A] 0.081	[A] 0.15

Results - Soil

Project: G24001 Sakura, Wrexham

Client: Jackson Geo Services				**Chemtest Job No.:**		24-02664	24-02664	24-02664
Quotation No.: Q22-29781				**Chemtest Sample ID.:**		1759753	1759754	1759755
Order No.:				Client Sample Ref.:		4	2	6
				Client Sample ID.:		#1642549676650004	#4764894328430002	#5513300646790006
				Sample Location:		TP105	TP101	TP104
				Sample Type:		SOIL	SOIL	SOIL
				Top Depth (m):		1.50	0.50	3.00
				Bottom Depth (m):		1.80	0.70	3.20
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**			
Moisture		N	2030	%	0.020	18	18	16
Soil Colour		N	2040		N/A	Brown	Brown	Brown
Other Material		N	2040		N/A	Stones	Stones and Roots	Stones
Soil Texture		N	2040		N/A	Clay	Clay	Clay
pH (2.5:1) at 20C		N	2010		4.0	[A] 8.3	[A] 8.2	[A] 8.3
Sulphate (2:1 Water Soluble) as SO4		U	2120	g/l	0.010	[A] < 0.010	[A] < 0.010	[A] < 0.010
Total Sulphur		U	2175	%	0.010	[A] 0.049	[A] 0.035	[A] 0.029
Sulphate (Acid Soluble)		U	2430	%	0.010	[A] 0.036	[A] 0.055	[A] 0.033

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1759746	6	#4390449516650006	BH101		A	Plastic Tub 500g
1759747	19	#4390449516650019	BH101		A	Plastic Tub 500g
1759748	29	#4390449516650029	BH101		A	Plastic Tub 500g
1759749	9	#8152309385190009	BH102		A	Plastic Tub 500g
1759750	14	#8152309385190014	BH102		A	Plastic Tub 500g
1759751	9	#9902333151490009	TP102		A	Plastic Tub 500g
1759752	12	#9902333151490012	TP102		A	Plastic Tub 500g
1759753	4	#1642549676650004	TP105		A	Plastic Tub 500g
1759754	2	#4764894328430002	TP101		A	Plastic Tub 500g
1759755	6	#5513300646790006	TP104		A	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <37°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2175	Total Sulphur in Soils	Total Sulphur	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	

Report Information

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Comments or interpretations are beyond the scope of UKAS accreditation
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None of the results in this report have been recovery corrected
All results are expressed on a dry weight basis

The following tests were analysed on samples as received and the results subsequently corrected to a dry weight basis TPH, BTEX, VOCs, SVOCs, PCBs, Phenols

For all other tests the samples were dried at < 37°C prior to analysis
All Asbestos testing is performed at the indicated laboratory
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt
All water samples will be retained for 14 days from the date of receipt
Charges may apply to extended sample storage

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable
PL - Prepared Leachate
PW - Processed Water

Report Information

RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Eurofins Chemtest Ltd
Depot Road
Newmarket
CB8 0AL
Tel: 01638 606070
Email: info@chemtest.com

Final Report

Report No.:	24-16425-1
Initial Date of Issue:	31-May-2024
Re-Issue Details:	
Client	Terra Firma
Client Address:	5 Deryn Court Wharfedale Road Pentwyn Cardiff CF23 7HA
Contact(s):	Exeter Group
Project	TF-24-148 Project Sakura

Quotation No.:		**Date Received:**	23-May-2024
Order No.:	TF-24-148	**Date Instructed:**	23-May-2024
No. of Samples:	2		
Turnaround (Wkdays):	5	**Results Due:**	30-May-2024
Date Approved:	31-May-2024		

Approved By:



Details: David Smith, Technical Director

For details about application of accreditation to specific matrix types, please refer to the Table at the back of this report

Results - Soil

Project: TF-24-148 Project Sakura

Client: Terra Firma				**Chemtest Job No.:**		24-16425	24-16425
Quotation No.:				**Chemtest Sample ID.:**		1812263	1812264
Order No.: TF-24-148				Client Sample Ref.:		101	102
				Sample Location:		BH205	BH205
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.30	0.60
				Asbestos Lab:		DURHAM	DURHAM
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**		
ACM Type		U	2192		N/A	-	-
Asbestos Identification		U	2192		N/A	No Asbestos Detected	No Asbestos Detected
Moisture		N	2030	%	0.020	20	19
Soil Colour		N	2040		N/A	Brown	Brown
Other Material		N	2040		N/A	None	None
Soil Texture		N	2040		N/A	Clay	Clay
pH at 20C		M	2010		4.0	[A] 7.9	[A] 8.2
Cyanide (Total)		M	2300	mg/kg	0.50	[A] < 0.50	[A] < 0.50
Sulphate (Total)		U	2430	%	0.010	[A] 0.089	[A] 0.032
Arsenic		M	2455	mg/kg	0.5	8.3	8.5
Cadmium		M	2455	mg/kg	0.10	0.21	0.14
Chromium		M	2455	mg/kg	0.5	28	28
Copper		M	2455	mg/kg	0.50	23	25
Mercury		M	2455	mg/kg	0.05	< 0.05	< 0.05
Nickel		M	2455	mg/kg	0.50	36	37
Lead		M	2455	mg/kg	0.50	23	23
Selenium		M	2455	mg/kg	0.25	0.74	0.74
Zinc		M	2455	mg/kg	0.50	72	70
Chromium (Trivalent)		N	2490	mg/kg	1.0	28	28
Chromium (Hexavalent)		N	2490	mg/kg	0.50	< 0.50	< 0.50
Organic Matter		M	2625	%	0.40	[A] 0.90	[A] 1.5
Total TPH >C6-C40	EH_1D_Total	M	2670	mg/kg	10	[A] < 10	[A] < 10
Naphthalene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Acenaphthylene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Acenaphthene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Fluorene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Phenanthrene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Anthracene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Fluoranthene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Pyrene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[a]anthracene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Chrysene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[b]fluoranthene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[k]fluoranthene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[a]pyrene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Indeno(1,2,3-c,d)Pyrene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Dibenz(a,h)Anthracene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10
Benzo[g,h,i]perylene		M	2700	mg/kg	0.10	[A] < 0.10	[A] < 0.10

Results - Soil

Project: TF-24-148 Project Sakura

Client: Terra Firma				**Chemtest Job No.:**		24-16425	24-16425
Quotation No.:				**Chemtest Sample ID.:**		1812263	1812264
Order No.: TF-24-148				Client Sample Ref.:		101	102
				Sample Location:		BH205	BH205
				Sample Type:		SOIL	SOIL
				Top Depth (m):		0.30	0.60
				Asbestos Lab:		DURHAM	DURHAM
Determinand	**HWOL Code**	**Accred.**	**SOP**	**Units**	**LOD**		
Total Of 16 PAH's		M	2700	mg/kg	2.0	[A] < 2.0	[A] < 2.0
Total Phenols		M	2920	mg/kg	0.10	0.25	< 0.10

Deviations

In accordance with UKAS Policy on Deviating Samples TPS 63. Chemtest have a procedure to ensure 'upon receipt of each sample a competent laboratory shall assess whether the sample is suitable with regard to the requested test(s)'. This policy and the respective holding times applied, can be supplied upon request.The reason a sample is declared as deviating is detailed below. Where applicable the analysis remains UKAS/MCERTs accredited but the results may be compromised.

Sample:	Sample Ref:	Sample ID:	Sample Location:	Sampled Date:	Deviation Code(s):	Containers Received:
1812263	101		BH205		A	Amber Glass 250ml
1812263	101		BH205		A	Amber Glass 60ml
1812263	101		BH205		A	Plastic Tub 500g
1812264	102		BH205		A	Amber Glass 250ml
1812264	102		BH205		A	Amber Glass 60ml
1812264	102		BH205		A	Plastic Tub 500g

Test Methods

SOP	Title	Parameters included	Method summary	Water Accred.
2010	pH Value of Soils	pH at 20°C	pH Meter	
2030	Moisture and Stone Content of Soils(Requirement of MCERTS)	Moisture content	Determination of moisture content of soil as a percentage of its as received mass obtained at <30°C.	
2040	Soil Description(Requirement of MCERTS)	Soil description	As received soil is described based upon BS5930	
2120	Water Soluble Boron, Sulphate, Magnesium & Chromium	Boron; Sulphate; Magnesium; Chromium	Aqueous extraction / ICP-OES	
2192	Asbestos	Asbestos	Polarised light microscopy / Gravimetry	
2300	Cyanides & Thiocyanate in Soils	Free (or easy liberatable) Cyanide; total Cyanide; complex Cyanide; Thiocyanate	Allkaline extraction followed by colorimetric determination using Automated Flow Injection Analyser.	
2430	Total Sulphate in soils	Total Sulphate	Acid digestion followed by determination of sulphate in extract by ICP-OES.	
2455	Acid Soluble Metals in Soils	Metals, including: Arsenic; Barium; Beryllium; Cadmium; Chromium; Cobalt; Copper; Lead; Manganese; Mercury; Molybdenum; Nickel; Selenium; Vanadium; Zinc	Acid digestion followed by determination of metals in extract by ICP-MS.	
2490	Hexavalent Chromium in Soils	Chromium [VI]	Soil extracts are prepared by extracting dried and ground soil samples into boiling water. Chromium [VI] is determined by ‘Aquakem 600’ Discrete Analyser using 1,5-diphenylcarbazide.	
2625	Total Organic Carbon in Soils	Total organic Carbon (TOC)	Determined by high temperature combustion under oxygen, using an Eltra elemental analyser.	
2670	Total Petroleum Hydrocarbons (TPH) in Soils by GC-FID	TPH (C6–C40); optional carbon banding, e.g. 3-band – GRO, DRO & LRO*TPH C8–C40	Dichloromethane extraction / GC-FID	
2700	Speciated Polynuclear Aromatic Hydrocarbons (PAH) in Soil by GC-FID	Acenaphthene; Acenaphthylene; Anthracene; Benzo[a]Anthracene; Benzo[a]Pyrene; Benzo[b]Fluoranthene; Benzo[ghi]Perylene; Benzo[k]Fluoranthene; Chrysene; Dibenz[ah]Anthracene; Fluoranthene; Fluorene; Indeno[123cd]Pyrene; Naphthalene; Phenanthrene; Pyrene	Dichloromethane extraction / GC-FID (GC-FID detection is non-selective and can be subject to interference from co-eluting compounds)	
2920	Phenols in Soils by HPLC	Phenolic compounds including Resorcinol, Phenol, Methylphenols, Dimethylphenols, 1-Naphthol and TrimethylphenolsNote: chlorophenols are excluded.	60:40 methanol/water mixture extraction, followed by HPLC determination using electrochemical detection.	

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N/E	not evaluated
<	"less than"
>	"greater than"
SOP	Standard operating procedure
LOD	Limit of detection

This report shall not be reproduced except in full, and only with the prior approval of the laboratory.
Any comments or interpretations are outside the scope of UKAS accreditation.
The Laboratory is not accredited for any sampling activities and reported results relate to the samples 'as received' at the laboratory.
Uncertainty of measurement for the determinands tested are available upon request .
None of the results in this report have been recovery corrected.
All results are expressed on a dry weight basis.

The following tests were analysed on samples 'as received' and the results subsequently corrected to a dry weight basis EPH, VPH, TPH, BTEX, VOCs, SVOCs, PCBs, Phenols.

For all other tests the samples were dried at ≤ 30°C prior to analysis.
All Asbestos testing is performed at the indicated laboratory .
Issue numbers are sequential starting with 1 all subsequent reports are incremented by 1.

Sample Deviation Codes

A - Date of sampling not supplied
B - Sample age exceeds stability time (sampling to extraction)
C - Sample not received in appropriate containers
D - Broken Container
E - Insufficient Sample (Applies to LOI in Trommel Fines Only)

Sample Retention and Disposal

All soil samples will be retained for a period of 30 days from the date of receipt.
All water samples will be retained for 14 days from the date of receipt.
Charges may apply to extended sample storage.

Water Sample Category Key for Accreditation

DW - Drinking Water
GW - Ground Water
LE - Land Leachate
NA - Not Applicable

Report Information

PL - Prepared Leachate
PW - Processed Water
RE - Recreational Water
SA - Saline Water
SW - Surface Water
TE - Treated Effluent
TS - Treated Sewage
UL - Unspecified Liquid

Clean Up Codes

NC - No Clean Up
MC - Mathematical Clean Up
FC - Florisil Clean Up

HWOL Acronym System

HS - Headspace analysis
EH - Extractable hydrocarbons – i.e. everything extracted by the solvent
CU - Clean-up – e.g. by Florisil, silica gel
1D - GC – Single coil gas chromatography
Total - Aliphatics & Aromatics
AL - Aliphatics only
AR - Aromatic only
2D - GC-GC – Double coil gas chromatography
#1 - EH_2D_Total but with humics mathematically subtracted
#2 - EH_2D_Total but with fatty acids mathematically subtracted
+ - Operator to indicate cumulative e.g. EH+EH_Total or EH_CU+HS_Total

If you require extended retention of samples, please email your requirements to:
customerservices@chemtest.com

Appendix E – In-situ Test Results and Ground Gas Monitoring Results

SOIL SOAKAWAY INFILTRATION TEST

Project	Sakura, Wrexham	Project No	G24001	Client	Thermotraffic

Exploratory Hole ID	Test No	Easting	Northing	Ground Level	Depth (m)	Length (m)	Width (m)
TP101A	1	337992.30	350283.10	31.29	2.20	2.00	0.50

Test Data	
Time Elapsed (mins)	Water Depth (m bgl)
0.00	0.80
1.00	0.80
2.00	0.80
3.00	0.80
4.00	0.80
5.00	0.80
6.00	0.80
8.00	0.80
10.00	0.80
15.00	0.80
20.00	0.80
30.00	0.80
60.00	0.80
90.00	0.80
120.00	0.80

Soakaway Construction	Vertical sides trimmed square. No fill material.		
Date of Test	17/01/2024	Weather	Cold, dry
Fill Porosity		Test Duration (mins)	120
Operative	RM	Checked by	

Water Depth Test Start (m)	0.8	Area of Base (m^2)	1
Water Depth Test End (m)	0.8	Effective Area of Sides (m^2)	7
75% effective depth (m)	1.15	Vp75-25 (m^3)	0.7
50% effective depth (m)	1.50	as50 (m^2)	4.5
25% effective depth (m)	1.85		

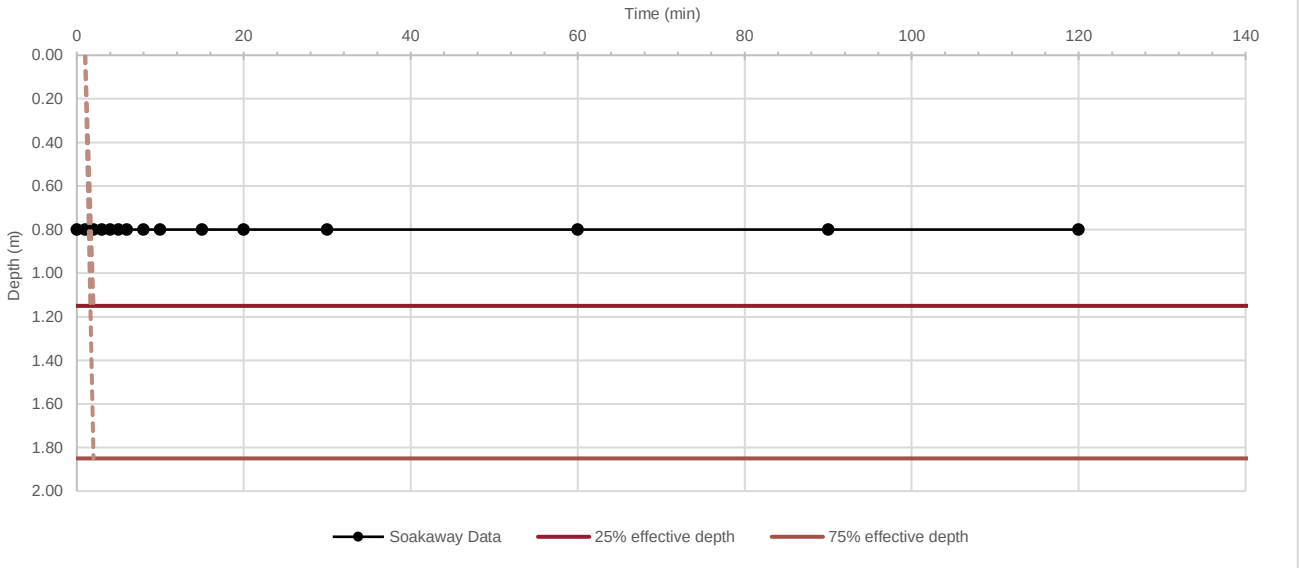
Time water level reaches 75% effective depth (Tp75) (mins)	
Time water level reaches 25% effective depth (Tp25) (mins)	

Soil Infiltration Rate (f) (m/s)	Unable to determine

Remarks

Undertaken in accordance with BRE digest 365 (2016)

No infiltration. Teriminated after 2 hours on agreement with Jubb.



GAS AND GROUNDWATER MONITORING DATA

Project	Sakura, Wrexham	Project No	G24001	Client	Thermotraffic

Exploratory Hole	Pipe Ref.	Date and Time	Reading Type	Reading	Units	Detection Limit	Instrument	Remarks
BH101	1	26/01/2024 11:00	Barometric Pressure	1025	mbar	5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Peak Carbon Dioxide	0.2	%	0.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Steady Carbon Dioxide	0.1	%	0.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Carbon Monoxide	0	ppm	2	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Gas Flow Rate	11.1	l/hr	0.3	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Hydrogen Sulphide	0	ppm	1.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Differential Pressure	2.13	mbar	4	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Peak Methane	0.9	%	0.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Steady Methane	0.9	%	0.5	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Steady Oxygen	20.9	%	1	GA5000 SN:G508511	
BH101	1	26/01/2024 11:00	Peak Oxygen	20.9	%	1	GA5000 SN:G508511	
BH101	1	26/01/2024 11:08	Water Level	0.8	m	0.01	Dip Meter	Base dipped at 5.00m
BH101	1	02/02/2024 11:58	Steady Oxygen	20.4	%	1	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Carbon Monoxide	0	ppm	2	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Steady Methane	0.1	%	0.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Peak Methane	0.1	%	0.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Differential Pressure	4.43	mbar	4	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Hydrogen Sulphide	0	ppm	1.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Gas Flow Rate	-1	l/hr	0.3	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Barometric Pressure	1020	mbar	5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Steady Carbon Dioxide	0.5	%	0.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Peak Carbon Dioxide	0.5	%	0.5	GA5000 SN:G504748	
BH101	1	02/02/2024 11:58	Water Level	0.37	m	0.01	Dip Meter	Base dipped at 4.97m
BH101	1	02/02/2024 11:58	Peak Oxygen	20.4	%	1	GA5000 SN:G504748	
BH101	1	12/02/2024 10:54	Water Level	0.45	m	0.01	Dip Meter	Base dipped at 5.00m
BH101	1	12/02/2024 10:55	Steady Oxygen	20.7	%	1	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Peak Oxygen	20.6	%	1	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Peak Methane	1.1	%	0.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Steady Methane	1.1	%	0.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Peak Carbon Dioxide	0.2	%	0.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Barometric Pressure	1001	mbar	5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Steady Carbon Dioxide	0.2	%	0.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Carbon Monoxide	0	ppm	2	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Gas Flow Rate	0.3	l/hr	0.3	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Hydrogen Sulphide	0	ppm	1.5	GA5000 SN:G508511	
BH101	1	12/02/2024 10:55	Differential Pressure	3.48	mbar	4	GA5000 SN:G508511	
BH102	1	26/01/2024 11:00	Water Level	0	m	0.01	Dip Meter	Base dipped at 4.97m, unable to monitor gases due to flooded headworks.
BH102	1	02/02/2024 12:00	Water Level	0	m	0.01	Dip Meter	Base dipped at 4.98m, unable to monitor gases due to flooded headworks.
BH102	1	12/02/2024 10:53	Water Level	0	m	0.01	Dip Meter	Base dipped at 4.98m, unable to monitor gases due to flooded headworks.

DYNAMIC CONE PENETROMETER (DCP) FIELD TEST RECORD

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL101	**Test No**	1	**Date and Time**	16/01/2024 09:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Ruler Scale Zero Reading	173	Ruler Scale Reset Zero Reading			
Depth Test started Below Ground Level (mm)	153	Cumulative Blows pre Reset		Total Penetration pre Reset	

Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)	Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)
0.15	1	235	62	1	215						
0.22	1	301	66	2	281						
0.28	1	356	55	3	336						
0.34	1	394	38	4	374						
0.37	1	426	32	5	406						
0.41	1	476	50	6	456						
0.46	1	521	45	7	501						
0.50	1	565	44	8	545						
0.55	1	606	41	9	586						
0.59	1	640	34	10	620						
0.62	1	670	30	11	650						
0.65	1	700	30	12	680						
0.68	1	739	39	13	719						
0.72	1	794	55	14	774						
0.77	1	851	57	15	831						
0.83	1	907	56	16	887						
0.89	1	956	49	17	936						

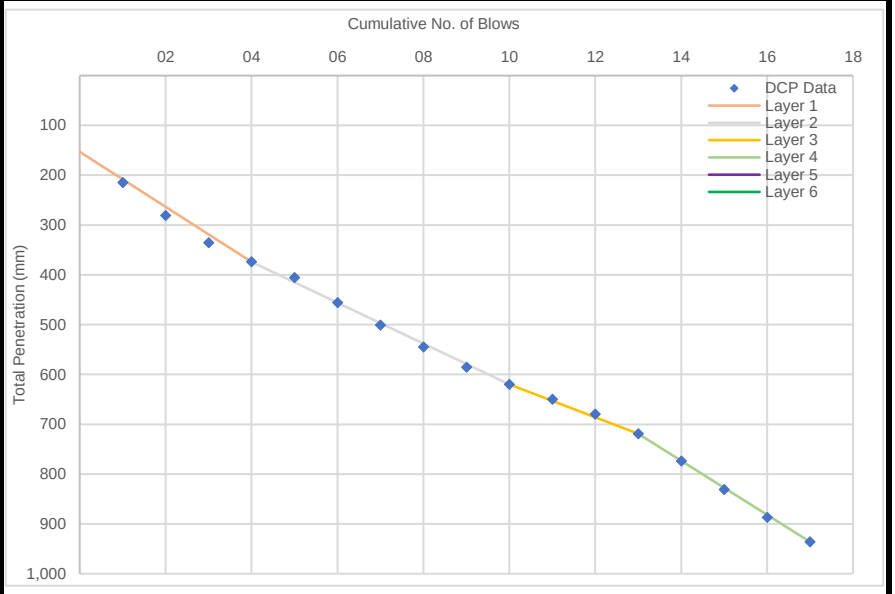
DYNAMIC CONE PENTROMETER (DCP) REPORT

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL101	**Test No**	1	**Date and Time**	16/01/2024 09:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)
01	215		
02	281		
03	336		
04	374		
05	406		
06	456		
07	501		
08	545		
09	586		
10	620		
11	650		
12	680		
13	719		
14	774		
15	831		
16	887		
17	936		

Cumulative Number of Blows Vs Total Penetration (mm)



Layer 1							
Top Depth	153	Blows	0	Base Depth	374	Blows	4
DCP (mm/blow)		55.25		**CBR Value**		4	
Layer 2							
Top Depth	374	Blows	4	Base Depth	620	Blows	10
DCP (mm/blow)		41.00		**CBR Value**		6	
Layer 3							
Top Depth	620	Blows	10	Base Depth	719	Blows	13
DCP (mm/blow)		33.00		**CBR Value**		7	
Layer 4							
Top Depth	719	Blows	13	Base Depth	936	Blows	17
DCP (mm/blow)		54.25		**CBR Value**		4	
Layer 5							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			
Layer 6							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			

Remarks:
Test undertaken in accordance with CS229 Rev0 (March 2020)

DYNAMIC CONE PENETROMETER (DCP) FIELD TEST RECORD

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL102	**Test No**	1	**Date and Time**	16/01/2024 11:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Ruler Scale Zero Reading	245	Ruler Scale Reset Zero Reading			
Depth Test started Below Ground Level (mm)	135	Cumulative Blows pre Reset		Total Penetration pre Reset	

Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)	Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)
0.14	1	343	98	1	233						
0.23	1	426	83	2	316						
0.32	1	471	45	3	361						
0.36	1	507	36	4	397						
0.40	1	545	38	5	435						
0.44	1	587	42	6	477						
0.48	1	634	47	7	524						
0.52	1	686	52	8	576						
0.58	1	742	56	9	632						
0.63	1	784	42	10	674						
0.67	1	824	40	11	714						
0.71	1	869	45	12	759						
0.76	1	911	42	13	801						
0.80	1	939	28	14	829						
0.83	1	964	25	15	854						

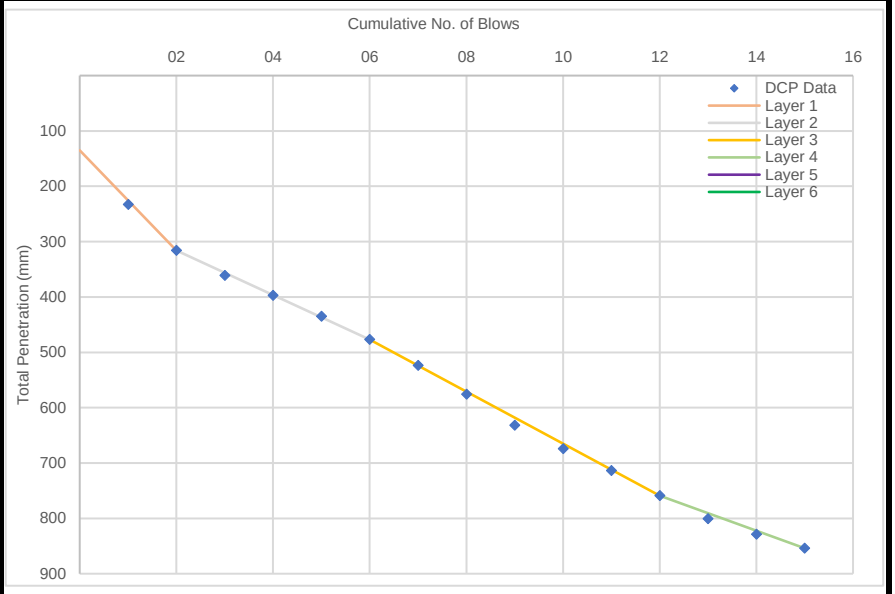
DYNAMIC CONE PENTROMETER (DCP) REPORT

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL102	**Test No**	1	**Date and Time**	16/01/2024 11:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)
01	233		
02	316		
03	361		
04	397		
05	435		
06	477		
07	524		
08	576		
09	632		
10	674		
11	714		
12	759		
13	801		
14	829		
15	854		

Cumulative Number of Blows Vs Total Penetration (mm)



Layer 1							
Top Depth	135	Blows	0	Base Depth	316	Blows	2
DCP (mm/blow)		90.50		**CBR Value**		3	
Layer 2							
Top Depth	316	Blows	2	Base Depth	477	Blows	6
DCP (mm/blow)		40.25		**CBR Value**		6	
Layer 3							
Top Depth	477	Blows	6	Base Depth	759	Blows	12
DCP (mm/blow)		47.00		**CBR Value**		5	
Layer 4							
Top Depth	759	Blows	12	Base Depth	854	Blows	15
DCP (mm/blow)		31.67		**CBR Value**		8	
Layer 5							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			
Layer 6							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			

Remarks:
Test undertaken in accordance with CS229 Rev0 (March 2020)

DYNAMIC CONE PENETROMETER (DCP) FIELD TEST RECORD

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL103	**Test No**	1	**Date and Time**	16/01/2024 13:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Ruler Scale Zero Reading	120	Ruler Scale Reset Zero Reading			
Depth Test started Below Ground Level (mm)	82	Cumulative Blows pre Reset		Total Penetration pre Reset	

Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)	Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)
0.08	1	214	94	1	176						
0.18	1	290	76	2	252						
0.25	1	345	55	3	307						
0.31	1	365	20	4	327						
0.33	1	381	16	5	343						
0.34	1	394	13	6	356						
0.36	1	408	14	7	370						
0.37	2	437	29	9	399						
0.40	2	497	60	11	459						
0.46	1	516	19	12	478						
0.48	1	540	24	13	502						
0.50	1	567	27	14	529						
0.53	1	587	20	15	549						
0.55	1	608	21	16	570						
0.57	1	632	24	17	594						
0.59	1	655	23	18	617						
0.62	1	681	26	19	643						
0.64	1	704	23	20	666						
0.67	1	730	26	21	692						
0.69	1	752	22	22	714						
0.71	1	767	15	23	729						
0.73	1	786	19	24	748						
0.75	1	806	20	25	768						
0.77	1	827	21	26	789						
0.79	1	856	29	27	818						
0.82	1	874	18	28	836						
0.84	1	896	22	29	858						
0.86	1	920	24	30	882						
0.88	1	945	25	31	907						
0.91	1	957	12	32	919						

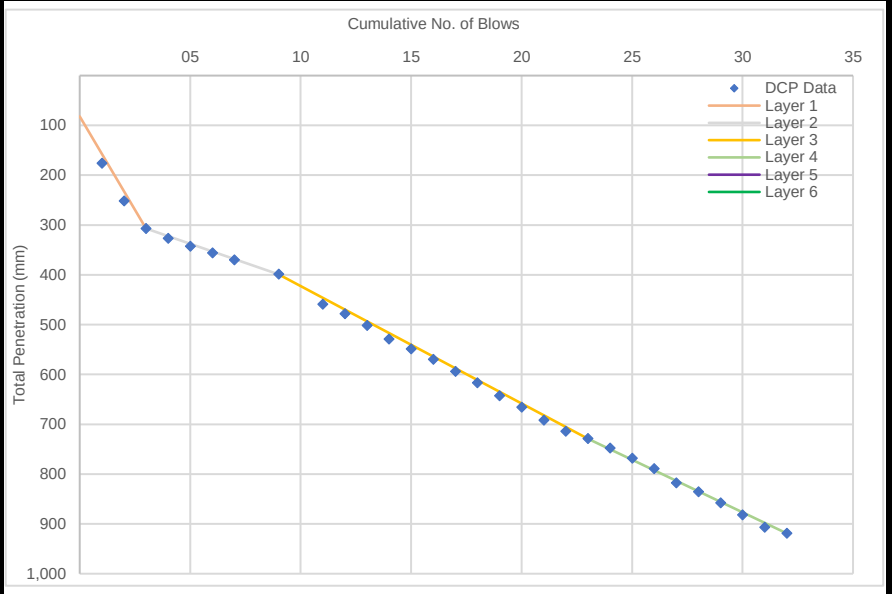
DYNAMIC CONE PENTROMETER (DCP) REPORT

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL103	**Test No**	1	**Date and Time**	16/01/2024 13:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)
01	176		
02	252		
03	307		
04	327		
05	343		
06	356		
07	370		
09	399		
11	459		
12	478		
13	502		
14	529		
15	549		
16	570		
17	594		
18	617		
19	643		
20	666		
21	692		
22	714		
23	729		
24	748		
25	768		
26	789		
27	818		
28	836		
29	858		
30	882		
31	907		
32	919		

Cumulative Number of Blows Vs Total Penetration (mm)



Layer 1							
Top Depth	82	Blows	0	Base Depth	307	Blows	3
DCP (mm/blow)		75.00		**CBR Value**		3	
Layer 2							
Top Depth	307	Blows	3	Base Depth	399	Blows	9
DCP (mm/blow)		15.33		**CBR Value**		17	
Layer 3							
Top Depth	399	Blows	9	Base Depth	729	Blows	23
DCP (mm/blow)		23.57		**CBR Value**		11	
Layer 4							
Top Depth	729	Blows	23	Base Depth	919	Blows	32
DCP (mm/blow)		21.11		**CBR Value**		12	
Layer 5							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			
Layer 6							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			

Remarks:
Test undertaken in accordance with CS229 Rev0 (March 2020)

DYNAMIC CONE PENETROMETER (DCP) FIELD TEST RECORD

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL104	**Test No**	1	**Date and Time**	16/01/2024 15:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Ruler Scale Zero Reading	186	Ruler Scale Reset Zero Reading			
Depth Test started Below Ground Level (mm)	146	Cumulative Blows pre Reset		Total Penetration pre Reset	

Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)	Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)
0.15	1	255	69	1	215						
0.22	1	271	16	2	231						
0.23	5	283	12	7	243						
0.24	10	296	13	17	256						
0.26	10	321	25	27	281						
0.28	2	331	10	29	291						
0.29	2	339	8	31	299						
0.30	5	351	12	36	311						
0.31	5	385	34	41	345						
0.35	1	400	15	42	360						
0.36	1	430	30	43	390						
0.39	1	465	35	44	425						
0.43	1	500	35	45	460						
0.46	1	530	30	46	490						
0.49	1	555	25	47	515						
0.52	1	579	24	48	539						
0.54	1	603	24	49	563						
0.56	1	620	17	50	580						
0.58	1	647	27	51	607						
0.61	1	677	30	52	637						
0.64	1	706	29	53	666						
0.67	1	746	40	54	706						
0.71	1	768	22	55	728						
0.73	1	789	21	56	749						
0.75	1	812	23	57	772						
0.77	1	836	24	58	796						
0.80	1	858	22	59	818						
0.82	1	880	22	60	840						
0.84	1	900	20	61	860						
0.86	1	916	16	62	876						
0.88	1	931	15	63	891						
0.89	1	942	11	64	902						

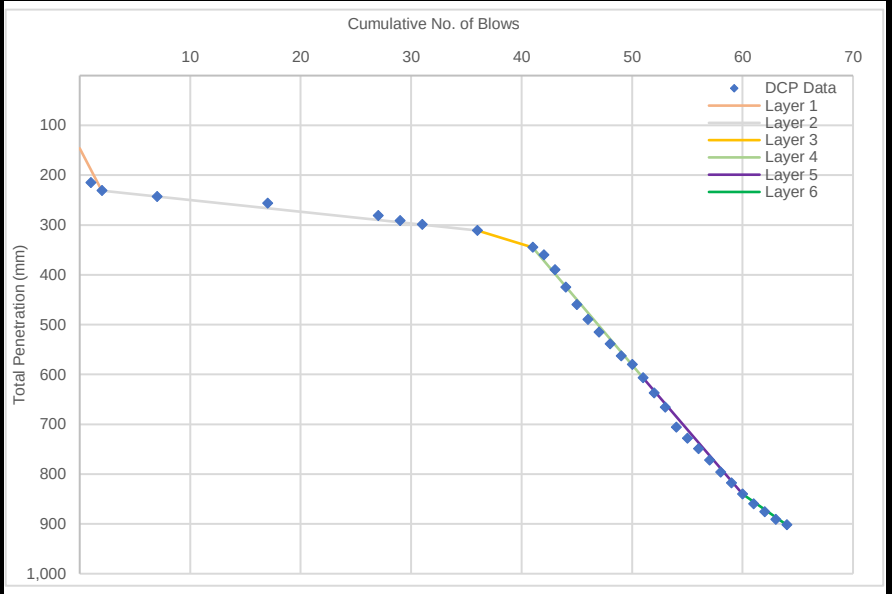
DYNAMIC CONE PENTROMETER (DCP) REPORT

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL104	**Test No**	1	**Date and Time**	16/01/2024 15:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)
01	215		
02	231		
07	243		
17	256		
27	281		
29	291		
31	299		
36	311		
41	345		
42	360		
43	390		
44	425		
45	460		
46	490		
47	515		
48	539		
49	563		
50	580		
51	607		
52	637		
53	666		
54	706		
55	728		
56	749		
57	772		
58	796		
59	818		
60	840		
61	860		
62	876		
63	891		
64	902		

Cumulative Number of Blows Vs Total Penetration (mm)



Layer 1							
Top Depth	146	Blows	0	Base Depth	231	Blows	2
DCP (mm/blow)		42.50		**CBR Value**		6	
Layer 2							
Top Depth	231	Blows	2	Base Depth	311	Blows	36
DCP (mm/blow)		2.35		**CBR Value**		122	
Layer 3							
Top Depth	311	Blows	36	Base Depth	345	Blows	41
DCP (mm/blow)		6.80		**CBR Value**		40	
Layer 4							
Top Depth	345	Blows	41	Base Depth	607	Blows	51
DCP (mm/blow)		26.20		**CBR Value**		10	
Layer 5							
Top Depth	607	Blows	51	Base Depth	840	Blows	60
DCP (mm/blow)		25.89		**CBR Value**		10	
Layer 6							
Top Depth	840	Blows	60	Base Depth	902	Blows	64
DCP (mm/blow)		15.50		**CBR Value**		17	

Remarks:
Test undertaken in accordance with CS229 Rev0 (March 2020)

DYNAMIC CONE PENETROMETER (DCP) FIELD TEST RECORD

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL105	**Test No**	1	**Date and Time**	16/01/2024 10:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Ruler Scale Zero Reading			157			Ruler Scale Reset Zero Reading					
Depth Test started Below Ground Level (mm)			132			Cumulative Blows pre Reset			Total Penetration pre Reset		
Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)	Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)
0.13	1	244	87	1	219						
0.22	1	291	47	2	266						
0.27	1	332	41	3	307						
0.31	1	382	50	4	357						
0.36	1	413	31	5	388						
0.39	1	426	13	6	401						
0.40	1	458	32	7	433						
0.43	1	485	27	8	460						
0.46	1	510	25	9	485						
0.49	1	533	23	10	508						
0.51	1	558	25	11	533						
0.53	1	589	31	12	564						
0.56	1	624	35	13	599						
0.60	1	654	30	14	629						
0.63	1	680	26	15	655						
0.66	1	704	24	16	679						
0.68	1	730	26	17	705						
0.71	1	752	22	18	727						
0.73	1	776	24	19	751						
0.75	1	800	24	20	775						
0.78	1	824	24	21	799						
0.80	1	846	22	22	821						
0.82	1	874	28	23	849						
0.85	1	900	26	24	875						
0.88	1	929	29	25	904						
0.90	1	958	29	26	933						

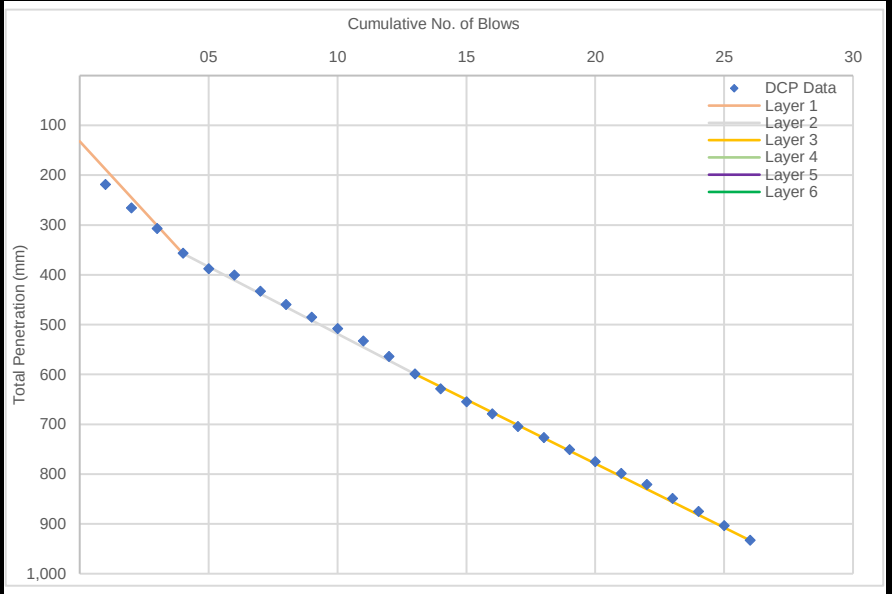
DYNAMIC CONE PENTROMETER (DCP) REPORT

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL105	**Test No**	1	**Date and Time**	16/01/2024 10:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)
01	219		
02	266		
03	307		
04	357		
05	388		
06	401		
07	433		
08	460		
09	485		
10	508		
11	533		
12	564		
13	599		
14	629		
15	655		
16	679		
17	705		
18	727		
19	751		
20	775		
21	799		
22	821		
23	849		
24	875		
25	904		
26	933		

Cumulative Number of Blows Vs Total Penetration (mm)



Layer 1							
Top Depth	132	Blows	0	Base Depth	357	Blows	4
DCP (mm/blow)		56.25		**CBR Value**		4	
Layer 2							
Top Depth	357	Blows	4	Base Depth	599	Blows	13
DCP (mm/blow)		26.89		**CBR Value**		9	
Layer 3							
Top Depth	599	Blows	13	Base Depth	933	Blows	26
DCP (mm/blow)		25.69		**CBR Value**		10	
Layer 4							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			
Layer 5							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			
Layer 6							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			

Remarks:
Test undertaken in accordance with CS229 Rev0 (March 2020)

DYNAMIC CONE PENETROMETER (DCP) FIELD TEST RECORD

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL106	**Test No**	1	**Date and Time**	16/01/2024 14:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Ruler Scale Zero Reading	130	Ruler Scale Reset Zero Reading			
Depth Test started Below Ground Level (mm)	110	Cumulative Blows pre Reset		Total Penetration pre Reset	

Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)	Increment Top Depth (m)	Number of Blows (increment)	Ruler Scale Reading	Increment Penetration (mm)	Cumulative Blows	Total Penetration (mm bgl)
0.11	1	190	60	1	170						
0.17	1	251	61	2	231						
0.23	1	300	49	3	280						
0.28	1	313	13	4	293						
0.29	1	325	12	5	305						
0.31	1	340	15	6	320						
0.32	1	355	15	7	335						
0.34	1	380	25	8	360						
0.36	1	409	29	9	389						
0.39	1	448	39	10	428						
0.43	1	466	18	11	446						
0.45	1	491	25	12	471						
0.47	1	516	25	13	496						
0.50	1	543	27	14	523						
0.52	1	568	25	15	548						
0.55	1	597	29	16	577						
0.58	1	621	24	17	601						
0.60	1	644	23	18	624						
0.62	1	668	24	19	648						
0.65	1	691	23	20	671						
0.67	1	715	24	21	695						
0.70	1	740	25	22	720						
0.72	1	766	26	23	746						
0.75	1	793	27	24	773						
0.77	1	819	26	25	799						
0.80	1	843	24	26	823						
0.82	1	870	27	27	850						
0.85	1	894	24	28	874						
0.87	1	923	29	29	903						
0.90	1	956	33	30	936						

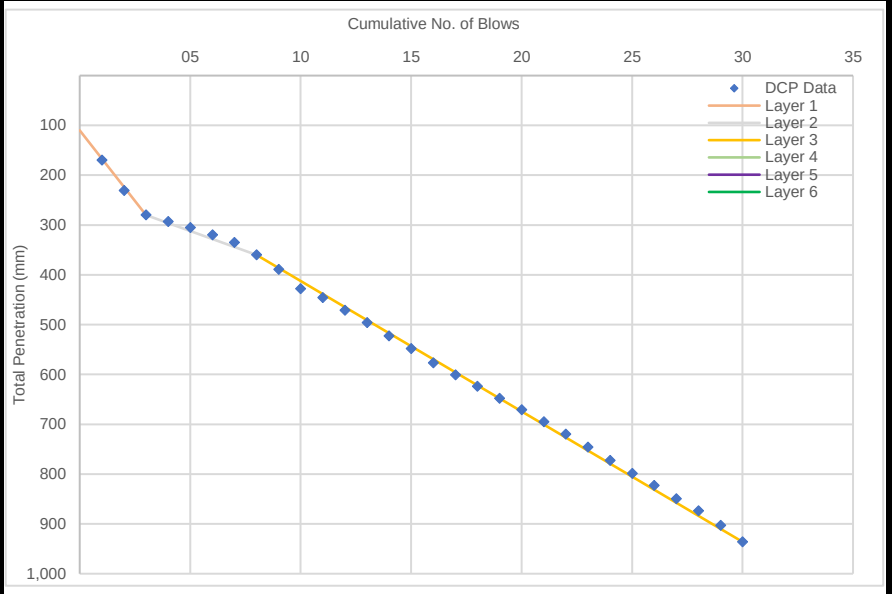
DYNAMIC CONE PENTROMETER (DCP) REPORT

Project	Sakura	**Project No**	G24001	**Client**	Thermotraffic Ltd.
Exploratory Hole ID	TRL106	**Test No**	1	**Date and Time**	16/01/2024 14:00
Easting		**Northing**		**Level (m AOD)**	
Section Reference	N/A	**Chainage**	N/A	**Traffic Direction**	N/A
Lane and Offset	N/A	**Weather**	Dry, cold	**Operator**	FT

Test Data

Cumulative Blows	Total Penetration (mm bgl)	Cumulative Blows	Total Penetration (mm bgl)
01	170		
02	231		
03	280		
04	293		
05	305		
06	320		
07	335		
08	360		
09	389		
10	428		
11	446		
12	471		
13	496		
14	523		
15	548		
16	577		
17	601		
18	624		
19	648		
20	671		
21	695		
22	720		
23	746		
24	773		
25	799		
26	823		
27	850		
28	874		
29	903		
30	936		

Cumulative Number of Blows Vs Total Penetration (mm)



Layer 1							
Top Depth	110	Blows	0	Base Depth	280	Blows	3
DCP (mm/blow)		56.67		**CBR Value**		4	
Layer 2							
Top Depth	280	Blows	3	Base Depth	360	Blows	8
DCP (mm/blow)		16.00		**CBR Value**		16	
Layer 3							
Top Depth	360	Blows	8	Base Depth	936	Blows	30
DCP (mm/blow)		26.18		**CBR Value**		10	
Layer 4							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			
Layer 5							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			
Layer 6							
Top Depth		Blows		Base Depth		Blows	
DCP (mm/blow)				**CBR Value**			

Remarks:
Test undertaken in accordance with CS229 Rev0 (March 2020)

Appendix F – Haz Waste Assessment

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.

LB1FV-IJ67X-RNZCG

Job name

Project Sakura

Description/Comments

Project

23284

Site

Norish Cold Store, Wrexham

Classified by

Name:
Philip Webber
Date:
12 Jun 2024 14:07 GMT
Telephone:
01752 222200

Company:
Jubb Consulting Engineers Ltd
Unit 1 Ensign House
Parkway Court
Marsh Mills
PL6 8LR

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: -

Course	Date
Hazardous Waste Classification	50% complete

Purpose of classification

2 - Material Characterisation

Address of the waste

Norish Wrexham, Ash Rd S, Wrexham LL13 9UG **Post Code** LL13 9UG

SIC for the process giving rise to the waste

Description of industry/producer giving rise to the waste

Demolition, industrial use and earthwork activities

Description of the specific process, sub-process and/or activity that created the waste

Demolition of historic structures, manufacturing/ storage of explosives, Presence of Made Ground from earthwork activities

Description of the waste

Made Ground derived from natural deposits

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	HP101	0.20	Non Hazardous		3
2	TP105	0.50	Non Hazardous		5
3	TP103	0.30	Non Hazardous		7
4	TP101	1.00	Non Hazardous		9
5	TP101A	1.50	Non Hazardous		11
6	TP104	0.50	Non Hazardous		13
7	TP104[2]	3.40	Non Hazardous		15
8	HP103	0.50	Non Hazardous		17
9	HP104	0.30	Non Hazardous		19
10	BH205(1)	0.3	Non Hazardous		21
11	BH205(2)	0.6	Non Hazardous		23

Related documents

#	Name	Description
1	General Brownfield Soils	waste stream template used to create this Job

Report

Created by: Philip Webber

Created date: 12 Jun 2024 14:07 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	25
Appendix B: Rationale for selection of metal species	26
Appendix C: Version	26

Classification of sample: HP101

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
HP101
Sample Depth:
0.20 m
Moisture content:
12%
(no 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: 12% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.4	mg/kg	1.285	0.514	mg/kg	0.00004 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		27	mg/kg	1.462	39.462	mg/kg	0.00395 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<**LOD**
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	51	mg/kg	1.56	79.551	mg/kg	0.0051 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.07	mg/kg	1.353	0.0947	mg/kg	0.00000947 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22	mg/kg	1.126	24.77	mg/kg	0.00248 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		38	mg/kg	1.579	60.021	mg/kg	0.006 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				1.3	mg/kg	1.405	1.827	mg/kg	0.000183 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		220	mg/kg	1.245	273.837	mg/kg	0.0274 %		
11	pH			PH		8.3	pH		8.3	pH	8.3 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		0.85	mg/kg		0.85	mg/kg	0.000085 %		
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**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									
16		phenanthrene				0.35	mg/kg		0.35	mg/kg	0.000035 %		
			201-581-5	85-01-8									
17		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
			205-912-4	206-44-0									
19		pyrene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				15	mg/kg		15	mg/kg	0.0015 %		
				TPH									
										Total:	0.0487 %		

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 because Not flammable at this concentration

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0015%)

Classification of sample: TP105

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP105
Sample Depth:
0.50 m
Moisture content:
9.5%
(no 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% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		6.7	mg/kg	1.32	8.846	mg/kg	0.000885 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.22	mg/kg	1.285	0.283	mg/kg	0.000022 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		19	mg/kg	1.462	27.77	mg/kg	0.00278 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<**LOD**
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	30	mg/kg	1.56	46.794	mg/kg	0.003 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.05	mg/kg	1.353	0.0677	mg/kg	0.00000677 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		15	mg/kg	1.126	16.888	mg/kg	0.00169 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		22	mg/kg	1.579	34.749	mg/kg	0.00347 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.61	mg/kg	1.405	0.857	mg/kg	0.0000857 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		64	mg/kg	1.245	79.662	mg/kg	0.00797 %		
11	pH			PH		5.5	pH		5.5	pH	5.5 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**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									
16		phenanthrene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
			201-581-5	85-01-8									
17		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			205-912-4	206-44-0									
19		pyrene				0.17	mg/kg		0.17	mg/kg	0.000017 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				19	mg/kg		19	mg/kg	0.0019 %		
				TPH									
										Total:	0.0221 %		

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 because Not flammable at this concentration

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0019%)

Classification of sample: TP103

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP103
Sample Depth:
0.30 m
Moisture content:
15%
(no 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% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10	mg/kg	1.32	13.203	mg/kg	0.00132 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.64	mg/kg	1.285	0.823	mg/kg	0.000064 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		31	mg/kg	1.462	45.308	mg/kg	0.00453 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<**LOD**
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	85	mg/kg	1.56	132.584	mg/kg	0.0085 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.06	mg/kg	1.353	0.0812	mg/kg	0.00000812 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		28	mg/kg	1.126	31.525	mg/kg	0.00315 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		34	mg/kg	1.579	53.703	mg/kg	0.00537 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.78	mg/kg	1.405	1.096	mg/kg	0.00011 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		350	mg/kg	1.245	435.65	mg/kg	0.0436 %		
11	pH			PH		8.3	pH		8.3	pH	8.3 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**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									
16		phenanthrene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			201-581-5	85-01-8									
17		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				0.41	mg/kg		0.41	mg/kg	0.000041 %		
			205-912-4	206-44-0									
19		pyrene				0.4	mg/kg		0.4	mg/kg	0.00004 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				35	mg/kg		35	mg/kg	0.0035 %		
				TPH									
										Total:	0.0704 %		

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 because Not flammable at this concentration

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0035%)

Classification of sample: TP101

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP101
Sample Depth:
1.00 m
Moisture content:
14%
(no 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: 14% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		13	mg/kg	1.32	17.164	mg/kg	0.00172 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.31	mg/kg	1.285	0.398	mg/kg	0.000031 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		34	mg/kg	1.462	49.693	mg/kg	0.00497 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<**LOD**
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	45	mg/kg	1.56	70.192	mg/kg	0.0045 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.08	mg/kg	1.353	0.108	mg/kg	0.0000108 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		21	mg/kg	1.126	23.644	mg/kg	0.00236 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		38	mg/kg	1.579	60.021	mg/kg	0.006 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.7	mg/kg	1.405	0.983	mg/kg	0.0000983 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		110	mg/kg	1.245	136.919	mg/kg	0.0137 %		
11	pH			PH		8.6	pH		8.6	pH	8.6 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		0.11	mg/kg		0.11	mg/kg	0.000011 %		
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**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									
16	●	phenanthrene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
			201-581-5	85-01-8									
17	●	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18	●	fluoranthene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
			205-912-4	206-44-0									
19	●	pyrene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				0.13	mg/kg		0.13	mg/kg	0.000013 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.14	mg/kg		0.14	mg/kg	0.000014 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.27	mg/kg		0.27	mg/kg	0.000027 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				0.16	mg/kg		0.16	mg/kg	0.000016 %		
		601-032-00-3	200-028-5	50-32-8									
25	●	indeno[123-cd]pyrene				0.18	mg/kg		0.18	mg/kg	0.000018 %		
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27	●	benzo[ghi]perylene				0.15	mg/kg		0.15	mg/kg	0.000015 %		
			205-883-8	191-24-2									
28	●	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
				TPH									
										Total:	0.0347 %		

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: TP101A

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP101A
Sample Depth:
1.50 m
Moisture content:
12%
(no 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: 12% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.7	mg/kg	1.32	11.487	mg/kg	0.00115 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.34	mg/kg	1.285	0.437	mg/kg	0.000034 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		32	mg/kg	1.462	46.77	mg/kg	0.00468 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<**LOD**
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	67	mg/kg	1.56	104.508	mg/kg	0.0067 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.05	mg/kg	1.353	0.0677	mg/kg	0.00000677 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		20	mg/kg	1.126	22.518	mg/kg	0.00225 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		28	mg/kg	1.579	44.226	mg/kg	0.00442 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.45	mg/kg	1.405	0.632	mg/kg	0.0000632 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		140	mg/kg	1.245	174.26	mg/kg	0.0174 %		
11	pH			PH		8.5	pH		8.5	pH	8.5 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**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									
16	●	phenanthrene				0.2	mg/kg		0.2	mg/kg	0.00002 %		
			201-581-5	85-01-8									
17	●	anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18	●	fluoranthene				0.5	mg/kg		0.5	mg/kg	0.00005 %		
			205-912-4	206-44-0									
19	●	pyrene				0.45	mg/kg		0.45	mg/kg	0.000045 %		
			204-927-3	129-00-0									
20		benzo[a]anthracene				0.24	mg/kg		0.24	mg/kg	0.000024 %		
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				0.22	mg/kg		0.22	mg/kg	0.000022 %		
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				0.35	mg/kg		0.35	mg/kg	0.000035 %		
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				0.12	mg/kg		0.12	mg/kg	0.000012 %		
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				0.27	mg/kg		0.27	mg/kg	0.000027 %		
		601-032-00-3	200-028-5	50-32-8									
25	●	indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27	●	benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28	●	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
				TPH									
										Total:	0.0381 %		

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: TP104

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP104
Sample Depth:
0.50 m
Moisture content:
15%
(no 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% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		10	mg/kg	1.32	13.203	mg/kg	0.00132 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.17	mg/kg	1.285	0.218	mg/kg	0.000017 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		35	mg/kg	1.462	51.154	mg/kg	0.00512 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<**LOD**
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	32	mg/kg	1.56	49.914	mg/kg	0.0032 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<**LOD**
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23	mg/kg	1.126	25.895	mg/kg	0.00259 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		38	mg/kg	1.579	60.021	mg/kg	0.006 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.56	mg/kg	1.405	0.787	mg/kg	0.0000787 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		81	mg/kg	1.245	100.822	mg/kg	0.0101 %		
11	pH			PH		8.6	pH		8.6	pH	8.6 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**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									
16		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
17		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
19		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
				TPH									
										Total:	0.0297 %		

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: TP104[2]

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
TP104[2]
Sample Depth:
3.40 m
Moisture content:
13%
(no 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: 13% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.6 mg/kg	1.32	12.675 mg/kg	0.00127 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.27 mg/kg	1.285	0.347 mg/kg	0.000027 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		36 mg/kg	1.462	52.616 mg/kg	0.00526 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5 mg/kg	1.923	<0.962 mg/kg	<0.0000962 %		<LOD
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	22 mg/kg	1.56	34.316 mg/kg	0.0022 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05 mg/kg	1.353	<0.0677 mg/kg	<0.00000677 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22 mg/kg	1.126	24.77 mg/kg	0.00248 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		41 mg/kg	1.579	64.759 mg/kg	0.00648 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.57 mg/kg	1.405	0.801 mg/kg	0.0000801 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		64 mg/kg	1.245	79.662 mg/kg	0.00797 %		
11	pH			PH		8.8 pH		8.8 pH	8.8 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<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									
16		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
17		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
19		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
				TPH									
										Total:	0.027 %		

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: HP103

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
HP103
Sample Depth:
0.50 m
Moisture content:
15%
(no 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% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		9.6	mg/kg	1.32	12.675	mg/kg	0.00127 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	1	mg/kg	1.285	1.285	mg/kg	0.0001 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		29	mg/kg	1.462	42.385	mg/kg	0.00424 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	82	mg/kg	1.56	127.905	mg/kg	0.0082 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		0.05	mg/kg	1.353	0.0677	mg/kg	0.00000677 %		
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		22	mg/kg	1.126	24.77	mg/kg	0.00248 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		29	mg/kg	1.579	45.805	mg/kg	0.00458 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.53	mg/kg	1.405	0.745	mg/kg	0.0000745 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		160	mg/kg	1.245	199.154	mg/kg	0.0199 %		
11	pH			PH		7.9	pH		7.9	pH	7.9 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<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									
16		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
17		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
19		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				37	mg/kg		37	mg/kg	0.0037 %		
				TPH									
										Total:	0.0448 %		

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 because Not flammable at this concentration

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0037%)

Classification of sample: HP104

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
HP104
Sample Depth:
0.30 m
Moisture content:
17%
(no 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: 17% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		4.9	mg/kg	1.32	6.47	mg/kg	0.000647 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.28	mg/kg	1.285	0.36	mg/kg	0.000028 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		21	mg/kg	1.462	30.693	mg/kg	0.00307 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	25	mg/kg	1.56	38.995	mg/kg	0.0025 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		9.2	mg/kg	1.126	10.358	mg/kg	0.00104 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		15	mg/kg	1.579	23.692	mg/kg	0.00237 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.27	mg/kg	1.405	0.379	mg/kg	0.0000379 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		52	mg/kg	1.245	64.725	mg/kg	0.00647 %		
11	pH			PH		8.8	pH		8.8	pH	8.8 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<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							
16	●	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8							
17	●	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7							
18	●	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0							
19	●	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0							
20		benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3							
21		chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9							
22		benzo[b]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2							
23		benzo[k]fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9							
24		benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8							
25	●	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5							
26		dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3							
27	●	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2							
28	●	TPH (C6 to C40) petroleum group				31 mg/kg		31 mg/kg	0.0031 %		
				TPH							
								Total:	0.0195 %		

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 because Not flammable at this concentration

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0031%)

Classification of sample: BH205(1)

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH205(1)
Sample Depth:
0.3 m
Moisture content:
20%
(no 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: 20% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.3	mg/kg	1.32	10.959	mg/kg	0.0011 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.21	mg/kg	1.285	0.27	mg/kg	0.000021 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		28	mg/kg	1.462	40.924	mg/kg	0.00409 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23	mg/kg	1.56	35.876	mg/kg	0.0023 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		23	mg/kg	1.126	25.895	mg/kg	0.00259 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		36	mg/kg	1.579	56.862	mg/kg	0.00569 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.74	mg/kg	1.405	1.04	mg/kg	0.000104 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		72	mg/kg	1.245	89.619	mg/kg	0.00896 %		
11	pH			PH		7.9	pH		7.9	pH	7.9 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<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									
16		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
17		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
19		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
				TPH									
										Total:	0.0261 %		

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: BH205(2)

Non Hazardous Waste
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:
BH205(2)
Sample Depth:
0.6 m
Moisture content:
19%
(no 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: 19% No 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	arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3		8.5	mg/kg	1.32	11.223	mg/kg	0.00112 %		
2	cadmium { cadmium sulfide }	048-010-00-4	215-147-8	1306-23-6	1	0.14	mg/kg	1.285	0.18	mg/kg	0.000014 %		
3	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }		215-160-9	1308-38-9		28	mg/kg	1.462	40.924	mg/kg	0.00409 %		
4	chromium in chromium(VI) compounds { chromium(VI) oxide }	024-001-00-0	215-607-8	1333-82-0		<0.5	mg/kg	1.923	<0.962	mg/kg	<0.0000962 %		<LOD
5	lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1	23	mg/kg	1.56	35.876	mg/kg	0.0023 %		
6	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.05	mg/kg	1.353	<0.0677	mg/kg	<0.00000677 %		<LOD
7	copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1		25	mg/kg	1.126	28.147	mg/kg	0.00281 %		
8	nickel { nickel dihydroxide }	028-008-00-X	235-008-5 [1] 234-348-1 [2]	12054-48-7 [1] 11113-74-9 [2]		37	mg/kg	1.579	58.441	mg/kg	0.00584 %		
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }	034-002-00-8				0.74	mg/kg	1.405	1.04	mg/kg	0.000104 %		
10	zinc { zinc oxide }	030-013-00-7	215-222-5	1314-13-2		70	mg/kg	1.245	87.13	mg/kg	0.00871 %		
11	pH			PH		8.2	pH		8.2	pH	8.2 pH		
12	naphthalene	601-052-00-2	202-049-5	91-20-3		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
13	acenaphthylene		205-917-1	208-96-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
14	acenaphthene		201-469-6	83-32-9		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
15	fluorene		201-695-5	86-73-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<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									
16		phenanthrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			201-581-5	85-01-8									
17		anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-371-1	120-12-7									
18		fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-912-4	206-44-0									
19		pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			204-927-3	129-00-0									
20		benzo[a]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-033-00-9	200-280-6	56-55-3									
21		chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-048-00-0	205-923-4	218-01-9									
22		benzo[b]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-034-00-4	205-911-9	205-99-2									
23		benzo[k]fluoranthene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-036-00-5	205-916-6	207-08-9									
24		benzo[a]pyrene; benzo[def]chrysene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-032-00-3	200-028-5	50-32-8									
25		indeno[123-cd]pyrene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-893-2	193-39-5									
26		dibenz[a,h]anthracene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
		601-041-00-2	200-181-8	53-70-3									
27		benzo[ghi]perylene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<**LOD**
			205-883-8	191-24-2									
28		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<**LOD**
				TPH									
										Total:	0.0263 %		

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

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

pH (CAS Number: PH)

Description/Comments: Appendix C4
Data source: WM3 1st Edition 2015
Data source date: 25 May 2015
Hazard Statements: None.

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

- **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
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

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Worst case species based on hazard statements

cadmium {cadmium sulfide}

Worst case species based on hazard statements

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Worst case species based on hazard statements

chromium in chromium(VI) compounds {chromium(VI) oxide}

Worst case species based on hazard statements

lead {lead chromate}

Worst case species based on hazard statements

mercury {mercury dichloride}

Worst case species based on hazard statements

copper {dicopper oxide; copper (I) oxide}

Most likely common species

nickel {nickel dihydroxide}

Worst case species based on hazard statements

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

Worst case species based on hazard statements

zinc {zinc oxide}

Most likely to occur in oxides form in soils.

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2024.158.6092.11254 (06 Jun 2024)
HazWasteOnline Database: 2024.158.6092.11254 (06 Jun 2024)

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

Appendix G – Geotechnical Risk Register

Appendix H – Contamination Risk Assessment Methodology

CONTAMINATION ASSESSMENT METHODOLOGY

The DEFRA and Environment Agency Contaminated Land Report 11 (CLR11) 'Model Procedures for the Management of Land Contamination' provides a technical framework for structured decision making about land contamination.

A1. Definition of Risk

CLR11 defines risk as "a combination of probability, or frequency, of occurrence of a defined hazard and the magnitude of the consequences of the occurrence".

A2. The Concept of the 'Pollutant Linkage'

In the context of contaminated land, there are three essential elements to any risk:

- a **contaminant (or source)** – a substance that is in, on or under land and has the potential to cause harm or cause pollution of controlled waters.
- a **receptor** - humans, ecological system, water body or property.
- a **pathway** – a route or means by which a receptor can be exposed to, or affected by, a contaminant.

Each of these elements can exist separately; however, they create a risk only where they are linked together forming a **pollutant linkage**.

A3. Conceptual Site Models

A conceptual site model represents the characteristics of the site in diagrammatic or written form that shows the possible relationships between contaminants, pathways and receptors (pollutant linkages).

For all potential pollutant linkages identified, the *consequence* and *probability* of occurrence is qualitatively assessed, and a *risk* assigned.

A4. The Tiered Risk Assessment Approach

CLR11 presents a tiered approach to risk:

Tier 1 *Preliminary risk assessment (PRA)*
The purpose of the preliminary risk assessment is to develop an initial conceptual model of the site and to establish whether or not there are potentially unacceptable risks. If potential risks are identified the initial conceptual model is developed in subsequent tiers of the risk assessment process.

Tier 2 *Generic quantitative risk assessment (GQRA)*
The purpose of the generic quantitative risk assessment is to establish whether generic assessment criteria and assumptions are appropriate for assessing the risks and, if so, to apply them to establish whether there are actual or potential unacceptable risks. It also determines whether further detailed quantitative risk assessment is required.

Tier 3 *Detailed quantitative risk assessment (DQRA)*
The purpose of the detailed quantitative risk assessment is to establish and use more detailed site specific information and criteria to decide whether there are unacceptable risks. It may be used as the sole method of quantitative assessments of risks, or it may be used to refine earlier assessments using generic assessment criteria.

B. RISK ASSESSMENT DEFINITIONS

B1. General

The following classification and definition of risk assessment has been based on that set out in NHBC and EA Publication R&D 66 – Guidance on the Safe Development of Housing on Land Affected by Contamination (2008).

The key to the classification is that the designation of risk is based upon the consideration of both:

a) **the magnitude of the potential consequence (i.e. severity)**, which considers both the potential severity of the hazard, and the sensitivity of the receptor**.**

b) **the magnitude of probability (i.e. likelihood)**, which considers both the presence of the hazard, the receptor, and the integrity of the pathway.

B2. Classification of Consequence

Classification	Definition	Examples
Severe	Highly elevated concentrations likely to result in "significant harm" to human health as defined by the EPA 1990, Part 2A, if exposure occurs. Equivalent to EA Category 1 pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of List I and II substances present in groundwater close to small potable abstraction (high sensitivity). Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).
Medium	Elevated concentrations which could result in "significant harm" to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to EA Category 2 pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.	Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes.
Mild	Exposure to human health unlikely to lead to "significant harm". Equivalent to EA Category 3 pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population. Minor damage to crops, buildings or property.	Exposure could lead to slight short-term effects (e.g. mild skin rash). Surface spalling of concrete.
Minor	No measurable effect on humans. Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems. Repairable effects of damage to buildings, structures and services.	The loss of plants in a landscaping scheme. Discoloration of concrete.

** For these purposes, disease is to be taken to mean an unhealthy condition of the body or a part of it and can include, for example, cancer, liver dysfunction or extensive skin ailments. Mental dysfunction is included only insofar as it is attributable to the effects of a pollutant on the body of the person concerned.*

B3. Classification of Probability

Only applies if there is a possibility of a pollutant linkage being present.

Classification	Definition	Examples
High likelihood	There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.	a) *Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden.* b) *Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50*
Likely	There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.	a) *Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space.* b) *Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests.*
Low likelihood	There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place and is less likely in the shorter term.	a) *Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space.* b) *Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years – the tank is double skinned but there is no integrity testing or evidence of leakage.*
Unlikely	There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term.	a) *Elevated concentrations of toxic contaminants are present below hard standing.* b) *Light industrial unit <10 yrs. old containing a double- skinned UST with annual integrity testing results available.*

Note: A pollution linkage must first be established before probability is classified. If there is no pollution linkage, then there is no potential risk. If there is no pollution linkage, then there is no need to apply tests for probability and consequence.

For example, if there is surface contamination and a major aquifer is present at depth, but this major aquifer is overlain by an aquiclude of significant thickness then there is no pollution linkage and the risks to the major aquifer are not assessed. The report should identify both the source and the receptor but state that because there is no linkage there are no potential risks.

B4. The Classification of Risk

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High likelihood**	Very high risk	High risk	Moderate risk	Low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

B5. Description of the Classified Risks

Very high risk
There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

High risk
Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

Moderate risk
It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

Low risk
It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

Very low risk
It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that this harm if realised would normally be mild or minor.

No potential risk
There is no potential risk if no pollution linkage has been established.

B6. Definitions

Term	Definition
Hazard	A property or situation which in certain circumstances could lead to harm. The properties of different hazards must be assessed in relation to their potential to affect the various receptors.
Risk	A combination of the probability or frequency of the occurrences of a defined hazard AND the magnitude of the consequences of that occurrence.
Probability	The mathematical expression of the chance of a particular event in a given period of time [e.g. probability of 0.2 is equivalent to 20% or a 1 in 5 chance].
Impact	The adverse effects (or harm) arising from a defined hazard which impairs the quality of the environment or human health in the short or longer term.
Pollution linkage	An identified pathway is capable of exposing a receptor to a contaminant and that contaminant is capable of harming the receptor.

APPENDIX I - LIMITATIONS AND EXCEPTIONS

Limitations and Exceptions

1. The advice given in this report is based on the guidelines available at the time of writing.

2. This investigation was conducted so as to generally comply with the relevant principles and requirements of BS10175: 2011 "Investigation of potentially contaminated sites - Code of Practice" and BS 5930:2015 “Code of Practice for Site Investigations”.

3. The Client is advised that the conditions observed on site by Jubb Consulting Engineers Ltd (JCE) at the time of the investigation or assessment are subject to change. Certain indicators of the presence of hazardous substances may have been latent at the time of the most recent site reconnaissance or investigation and they may subsequently have become observable. Ground conditions, including geotechnical properties may vary between points of observation, sampling and testing.

4. Certain areas of site had restricted access or were inaccessible due to the presence of in-use buildings, facilities and live services, as identified in this report. These may require further investigation outside the scope of this present investigation.

5. Comments made relating to land gas or groundwater conditions are based on observations made at the time of an investigation unless otherwise stated. Land gas and groundwater conditions may vary as a result of seasonal or other effects.

6. Ground contamination often exists as small discrete areas of contamination and there can be no certainty that any or all such areas have been located, sampled and/or identified.

7. The findings and opinions conveyed in this report are based on information obtained from a variety of sources, including that from previous site investigations and chemical and geotechnical testing laboratories, and which JCE has assumed are correct. Nevertheless, JCE cannot and does not guarantee the authenticity or reliability of the information it has used or cited. JCE can accept no responsibility for inaccuracies within the data supplied by other parties.

8. This report is written in the context of an agreed scope of work between JCE and the Client and should not be used in a different context. In the light of additional information becoming available, improved practices and changes in legislation, amendment or re-interpretation of the assessment or report in whole or part may be necessary after its original submission.

9. This report is provided for sole use by the Client and is confidential to them. No responsibility whatsoever for the contents of the report will be accepted to anyone other than the Client.

10. This report is not a specification for works.

11. JCE believes that providing information about limitations is essential to help the Client identify and thereby manage risks.

12. JCE does not provide legal advice and the advice of the Clients’ legal advisors may also be required.

13. JCE retain the copyright in this report and all drawings reproduced in it.