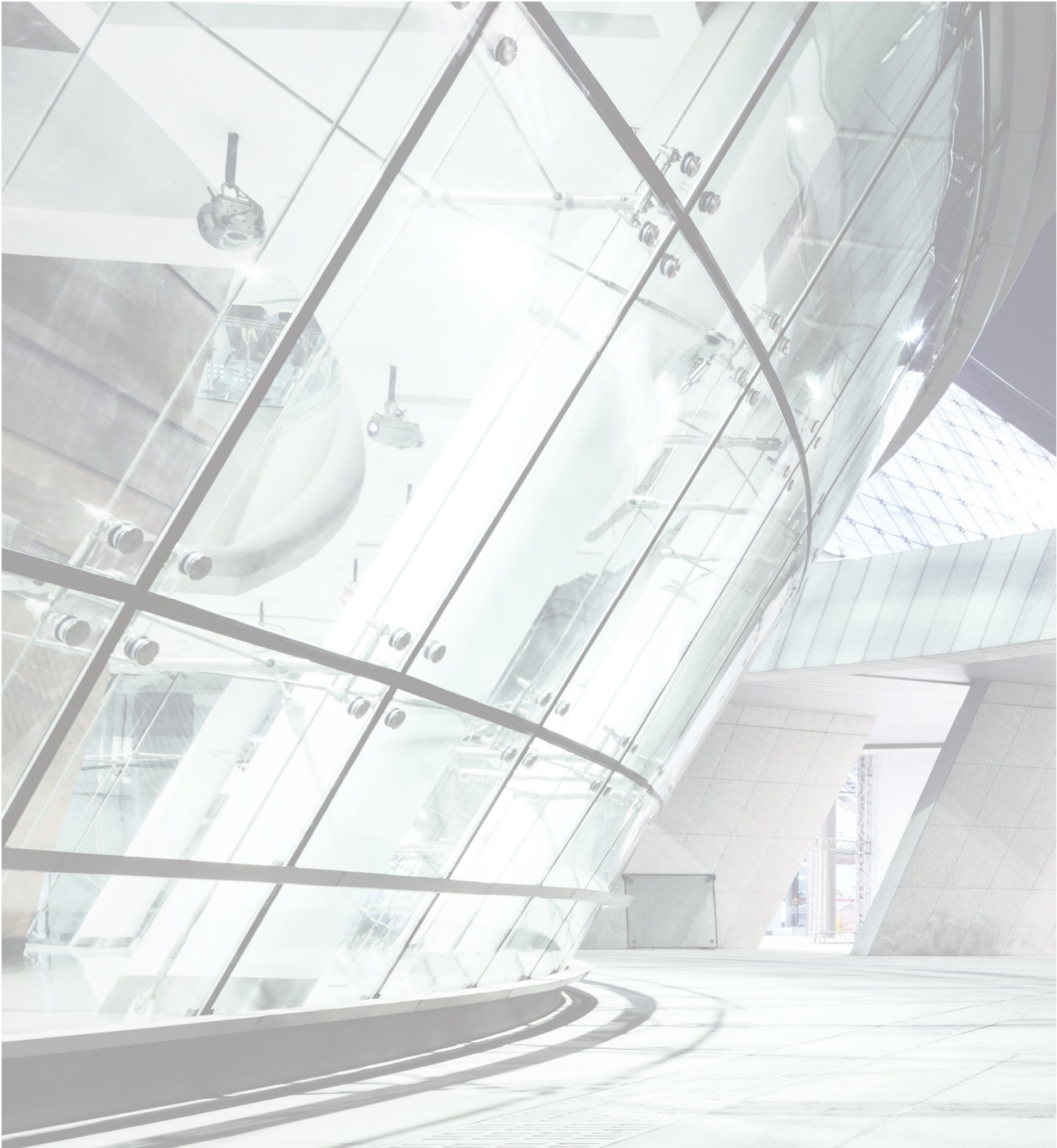




GROUNDTECH
CONSULTING

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For and Behalf of Groundtech Consulting	
SIGNATURE	
AUTHOR	Cameron Wallace BSc (Hons) FGS
SIGNATURE	
CHECKED	Richard Wyatt MEng (Hons) FGS
SIGNATURE	
REVIEWED	James Doyle BSc (Hons) CGeol FGS

SUMMARY

Site Details		
Site Location	The site is located c.6.7 miles east of Swansea Town Centre at approximate National Grid Reference 275907, 189387.	
Site Area	The site covers an area of approximately 1.12Ha and is roughly triangular in shape. The site is currently vacant and predominantly covered in scrub and light vegetation. Some areas of hardsurfacing comprising concrete and tarmac are present at the site entrance and to the east.	
Preliminary Risk Assessment		
History	The site was occupied by a Tin Plate Works from 1881 and was developed for various industries through time including a railway terminus, engineering works, corporation yard, mortuary, residential dwellings and petrol filling station. Through the various land uses, features such as a well, chimneys, tanks and electricity substation have been present on site.	
Geology/Hydrogeology	The site is underlain by Estuarine Alluvium Deposits (Secondary Undifferentiated Aquifer) comprising Clay, Silt and Sand. The solid geology beneath the site is the South Wales Middle Coal Measures Formation (Secondary A Aquifer) comprising Mudstone, Siltstone, Sandstone and coal seams.	
Mining	The Coal Authority consultation indicates that there is no risk from past or future underground mining on the site.	
Environmental Setting	An obsolete petrol filling station was present on site. The site is not within 500m of a Source Protection Zone. There are no groundwater or potable water abstractions within 2000m of the site.	
Pollution Linkage (PL) Assessment	Human Health	The risk to human health is considered to be Low as the site will be covered in hardsurfacing.
	Controlled Waters	The risk to controlled water is considered to be Low to Moderate.
	Permanent Ground Gas	The risk to human health from ground gases is Moderate to High.
Ground Model		
Made Ground Soils	Hard surfacing was present within TP02, TP03 and TP05 to a maximum depth of 0.15m bgl. This was underlain by tarmac within TP02 to a depth of 0.2m bgl. Made Ground was found to a maximum depth of 2.9m bgl and generally comprised sand and gravel with minor constituents of ash, slag, coal, brick and concrete.	
Natural Soils	Natural soils on site generally comprised very low to medium strength silty variably organic Clay to depths of between 3.9m and 5.3m bgl where very dense Gravel was encountered.	

Bedrock	<i>No bedrock was encountered during the investigation.</i>
Groundwater	<i>Perched groundwater was encountered in TP06 and TP07 at depths of 1.0m and 1.3m respectively within the Made Ground. Elsewhere across the site, groundwater strikes were identified in the natural ground at depths of between 2.4m and 5.0m bgl.</i>
Ground Engineering Assessment	
Foundations	<i>Shallow foundations are not considered to be suitable due to the low strength, compressible deposits that are present to a maximum depth of 5.3m bgl. The most suitable foundation solution for the development is piles end bearing into the very dense gravels.</i>
Highways	<i>CBR values of between 1.8% and 3.2% were achieved at formation level. In order to achieve a value of at least 5% some reengineering will be required if the existing materials are to be reused under the road surface.</i>
SuDS	<i>Due to the depth of Made Ground beneath the site and the underlying natural Clay, the use of a Sustainable Urban Drainage System is not considered feasible at this site.</i>
Constraints	<i>The main limitation is the number of obstructions encountered associated with the previous development at the site. As part of the enabling works, all obstructions will need to be grubbed up prior to the construction phase of works taking place.</i> <i>In addition, soft very low to low strength Clays are present to depths of up to 5.3m bgl.</i>
GQRA and Revised (PL) Assessment	
Human Health	<i>The site has relatively low levels of hydrocarbon contamination given the previous usage as a petrol station, and generally low levels of contamination considering the sites historical land usage. There was one exceedance when compared to commercial screening values. The exceedance is relating to benzo(a)anthracene in a sample obtained from TP03 at a depth of 0.3m bgl.</i> <i>No other elevated Contaminants of Concern were recorded based on the proposed commercial end use. Asbestos was detected in four samples of Made Ground at a maximum concentration of 0.04 mass %.</i> <i>The site is to be predominantly covered with hardsurfacing which will break the pathway from site end users to potentially contaminated soils. The risk to human health is Low.</i>
Controlled Waters	<i>Out of four groundwater samples that were tested, there was one slight exceedance relating to dissolved chromium within CP02. There were no other exceedances when compared to the EQS screening values. The risk to controlled water is Low.</i>
Permanent Ground Gas	<i>Preliminary gas monitoring indicates that the site is within CS1 and gas protection measures will not be required in the proposed development. However, based upon observations on site and findings from previous investigations indicating the localised presence of free phase within shallow soils, vapour protective measures are required in proposed buildings in the vicinity of the PFS or remedial action undertaken. The level of gas protection measures will be confirmed on completion of the gas monitoring. The site lies in an area not requiring radon protective measures.</i>

Final Appraisal

The following further work is considered necessary to progress the site to construction phase:

- *Completion of gas monitoring programme and issue gas assessment.*
 - *Production of Remedial Specification.*
 - *Detailed foundation design.*
 - *Confirmation of remedial recommendations with the Regulators.*
-

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Plans		
<i>Plan Reference</i>	<i>Revision</i>	<i>Title</i>
<i>GRO-21252-P01</i>	-	<i>Project Location Plan</i>
<i>GRO-21252-P02</i>	-	<i>Preliminary Development Constraints Plan</i>
<i>GRO-21252-P03</i>	-	<i>Illustrative Preliminary CSM</i>
<i>GRO-21252-P04</i>	-	<i>Combined Exploratory Hole Location Plan</i>
<i>GRO-21252-P05</i>	-	<i>Olfactory Contamination Plan</i>
<i>GRO-21252-P06</i>	-	<i>Laboratory Testing Contamination Plan</i>
<i>GRO-21252-P07</i>	-	<i>Obstructions Plan</i>
<i>GRO-21252-P08</i>	-	<i>Generalised Ground Model</i>
<i>GRO-21252-P09</i>	-	<i>Illustrative Revised CSM</i>

1.0 INTRODUCTION

1.1 Project Objectives

Groundtech Consulting Limited have been instructed by Aldi Stores Ltd and their consultant Craddys to undertake a Geo-Environmental Appraisal for a site off Afan Way in Port Talbot.

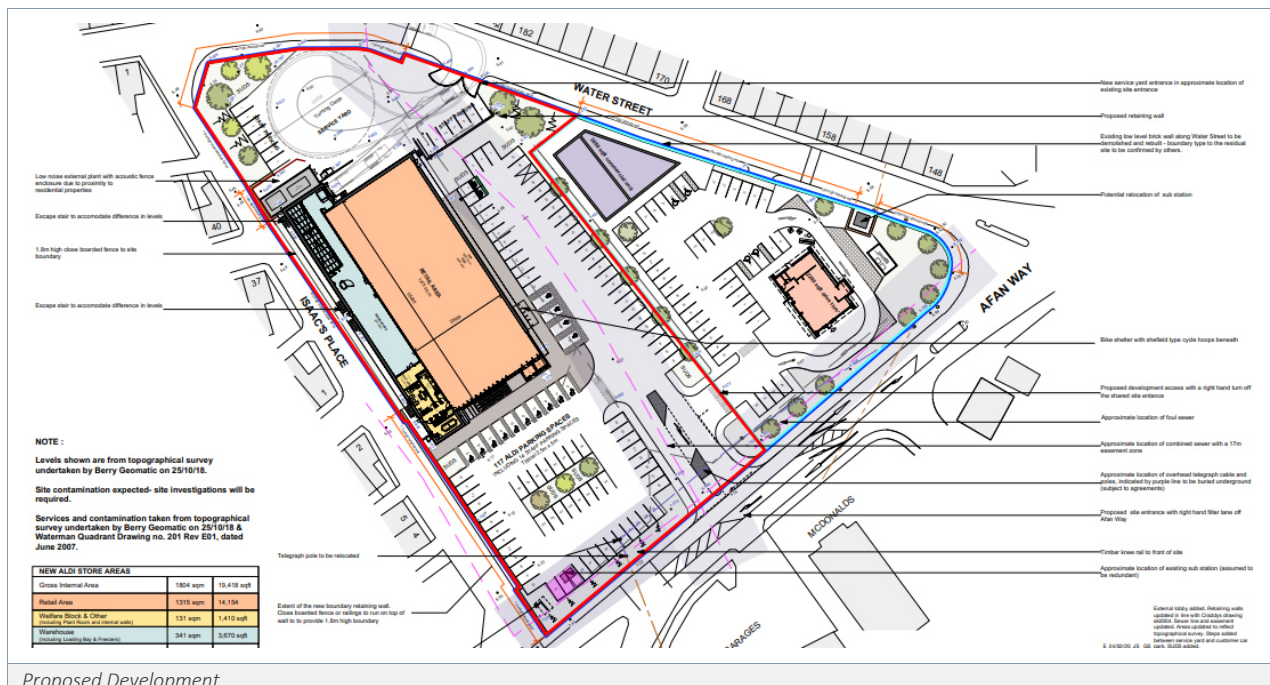
The objectives of the Preliminary Risk Assessment were to establish the sites environmental and geotechnical background in order to generate a Conceptual Site Model to identify any potential constraints and linkages which may affect the redevelopment of the site.

A main investigation was undertaken in accordance with BS 5930:2015, BS 10175:2017, BS 8576:2013 and Eurocode 7 to revise the CSM and quantify the level of risk identified in the PRA. The Appraisal has been prepared in accordance with current UK Legislation and to discharge Land Quality pre-commencement planning conditions. Several phases of investigation have previously been undertaken on the site, these reports are discussed where relevant.

The report has been undertaken to fulfil the requirements of a preliminary risk assessment in accordance with current risk assessment guidance.

1.2 Proposed Development

The proposed development is commercial end-use comprising the construction of an Aldi retail store with service yard and car parking. A separate drive thru unit and commercial unit will be constructed to the east of the Aldi store.



1.3 Limitations

This Preliminary Risk Assessment is based on information obtained from a number of sources, and the information is assumed to be correct.



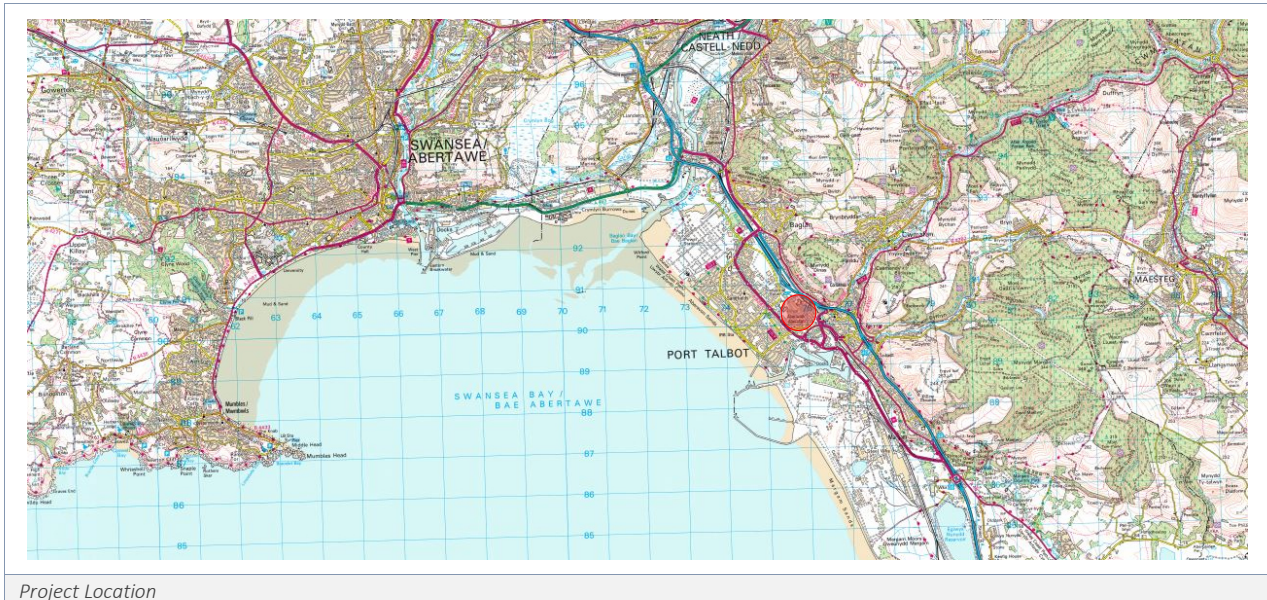
Other conditions may exist on the site that have not been taken into account in this assessment as they are outside the scope of works. Groundtech Consulting are not responsible for these circumstances that are not outlined in the report.

The assessment has been prepared for the exclusive use of the client. No third parties may rely on or reproduce the contents of the report without the written permission of Groundtech Consulting Limited. If any unauthorised third party comes into possession of the report, they rely on it at their own risk and Groundtech Consulting Limited will not be obliged to provide a duty of care.

2.0 SITE SETTING

2.1 Location

The site is located circa 6.73 miles east of Swansea Town Centre, as shown on the Project Location Plan GRO-21252-P01 and is approximately centred on National Grid Reference 275907, 189837.



Access to the site is gained off Water Street to the north.

2.2 Site Description

The site is roughly triangular in shape covering an area of approximately 1.12 hectares, site elevations fall slightly from west to east.

Site Features

The site surfacing is largely scrub, grass and light vegetation. Hardsurfacing is present at the site entrance comprising tarmac which is in poor condition. Remnant concrete footings from two steel framed buildings are present in the western and south western areas. A small electricity substation sitting on a concrete slab is situated in the southern corner of the site.

Small localised areas of concrete are present in the eastern and central areas associated with the sites previous uses. Small mounds and stockpiles are also present in the central and eastern site areas comprising soils and demolition waste.

Fly tipping is evident across the site and includes discarded tyres and general litter.

Boundaries and Surrounding Area

The site boundary is delineated by a 2m high brick wall to the north east and 2m high metal hoarding around the remaining extents of the site. The site is bound by Water Street to the north, Afan Way to the east and Isaacs Place to the west.



The site is surrounded by following features/land uses:

- North - *Water Street and residential development.*
- East - *Water Street and residential development.*
- South - *River Afan and weir.*
- West - *Isaacs Place and residential development.*

Site photographs are presented in *Appendix 2*.

3.0 SUMMARY OF PREVIOUS INVESTIGATIONS

A summary of available and existing site information is summarised below. Geo-environmental test data obtained from the Quantum Geotechnical investigation and the Arcadis Ground Investigation has been made available in electronic form and where relevant has been referred to below.

3.1 Quantum Geotechnical Supplementary Phase II GI Interpretative Report (G762/IR)

Scope of Works

The following scope of works was carried out between 2nd December and 14th December 2015:

- 6 No. light cable percussive boreholes.
- 19 No. windowless sample boreholes.
- 22 No. machine excavated trial pits.
- 4 No. machine excavated trial trenches.
- 11 No. in-situ California Bearing Ratio tests.
- Photo-Ionisation Detector (PID) readings of selected soil samples for Total Volatile Organic Compounds (VOCs).

Ground Conditions

Made Ground was encountered to a maximum depth of 3.1m bgl beneath the site comprising black sandy gravel with a medium to high cobble content and low boulder content. The Made Ground minor constituents comprised sandstone, mudstone, limestone, brick, concrete, slag, metal, plastic, glass and concrete.

A Made Ground stratum defined as a 'Mixed Layer' was observed in the east of the site, underlying the main Made Ground populations, and overlying the natural Estuarine Alluvium Deposits. This layer comprised medium dense brown slightly silty gravelly very clayey sand with wood fragments.

Natural strata encountered on the site consisted of Estuarine Alluvium Deposits recorded between 2.1m and 3.7m bgl comprising very soft to soft grey silty Clay occasionally interbedded with orange brown slightly silty very sandy Clay and grey mottled light brown sandy Clay. Fluvial Glacial deposits were found underlying the Alluvium at a typical depth range between 3.5m and 6.6m bgl and consisted of dense to very dense brown sandy Gravel.

Visual and olfactory evidence of contamination was noted within the soils across the site. All cases of contamination related to strong to very strong hydrocarbon odours within both the sandy clay and gravel at depths ranging between 0.9m and 4.3m bgl. Sheens were also noted within the Gravel at depths between 3.5m and 4.3m bgl. Groundwater sheens were also observed in a number of trial pits and window sample boreholes.

Buried brick structures including walls and a culvert were encountered, numerous concrete obstructions were also observed.

The following risks were identified within the assessment for a residential end use:

Human Health

- Elevated Tin leachate in Made Ground at 0.6m bgl.
- Elevated Cadmium leachate at 1.0m and 2.5m bgl.
- Elevated Mercury leachate levels at 1.0m and 2.5m bgl.
- Asbestos encountered at 0.3m to 1.6m bgl.

Controlled Waters

- *Extremely high concentrations of speciated TPH were recorded in all groundwater samples that were tested from the site.*
- *Elevated concentrations of heavy metals including Arsenic, Copper, Nickel, Tin and Zinc were encountered across the site particularly in the vicinity of the former PFS, council yard and former pond areas.*

Ground Gas

- *Preliminary results classify the site as CS-1.*
- *PID screening results from soil samples indicate significant risk posed from harmful volatile vapour gases emitting from the shallow soils. There is likely to be a requirement for a Volatile Organic Compound vapour membrane and measures to be implemented.*

Remedial Work (Recommended by Lee Remediation Ltd in 2008)

- *Removal of free product hydrocarbons from 1.2m diameter ring wells constructed to the Fluvio-Glacial Gravels.*
- *Excavation and ex-situ bioremediation of hydrocarbon impacted soils.*
- *Confirmatory monitoring of groundwater over a period of up to 6 months.*
- *Provision of vapour protection measures in new buildings on the former PFS including a gas membrane and passively ventilated sub-floor layer.*
- *Protection to water supply pipes.*

Remedial Work (Recommended by Quantum)

- *Offsite disposal of all Made Ground following hydrocarbon remediation works, and replacement with imported inert fill material.*
- *Ground improvement if shallow foundations are to be adopted.*

Shallow foundations were not considered to be a suitable foundation solution due to the low strength soft Clay present at founding depth, unless ground improvement is undertaken. The deeper Fluvio-Glacial Deposits offered allowable bearing capacities in excess of 150kN/m², however the depth typically exceeds 3.0m across the site and significant groundwater would be encountered forming deep trench foundations difficult.

Deep piled foundations would pose a significant risk in creating a new source-pathway-receptor linkage through the overlying contaminated soils and waters. If the overlying soils were to be remediated to permit installation of pile foundations, this may be an option but may not be economically viable.

3.2 Arcadis Burrows Yard Remedial Options Appraisal and Remedial Strategy

Arcadis were instructed by Neath Port Talbot County Borough Council (NPTCBC) to compile a remedial options appraisal and remedial strategy.

The recommended strategy is as follows:

- *Dispose of existing waste mounds that are present on site, and the two locations of buried asbestos containing bulk materials.*
- *Maintain a watching brief during all further remedial activities.*

- *Surface pick to remove existing sharps (related to drug use) and fragments of visible asbestos containing materials (ACMs).*
- *Dismantle existing steel frame structures, grub out foundations where required.*
- *Pull up tarmac and concrete surfacing (crush if suitable for re-use / e.g. via CL:AIRE CoP).*
- *Remove (recover) floating NAPL (diesel and petroleum spirit that is less dense than water) from the upper groundwater surface to the extent possible by current industry recognised techniques.*
- *Remediate PFS and similarly impacted contaminated Made Ground and natural sandy Clay soils.*
- *In all soft landscaped areas, excavate a sufficient amount of contaminated materials to enable a robust depth of clean cover material.*
- *Remediate leachable materials in soft landscaped areas*
- *Elevated Cadmium leachate at 1.0m and 2.5m bgl.*

3.3 Arcadis Burrows Yard Ground Investigation Report

The following scope of works was completed between 4th December and 12th December 2017:

- *4 No. cable percussive boreholes.*
- *6 No. machine excavated trial pits within existing waste mounds.*
- *12 No. machine excavated trial pits across the site.*
- *20 No. laser induced fluorescence tests.*

The following observations of contamination were made during the fieldwork:

- *Strong hydrocarbon odour in ABH04 2.3m bgl.*
- *Strong hydrocarbon odour in ATP06 2.0m to 2.1m bgl.*
- *Groundwater sheen in ATP08a 2.2m bgl.*
- *Organic odour in M04a GL to 1.0m bgl.*
- *Potential asbestos fragment in M06 0.1m to 1.4m bgl.*
- *Potential asbestos in LIF01a in pit wall face.*
- *Pocket of granular material, possibly degraded tarmac at 0.5m bgl.*

3.4 Arcadis Burrows Yard Revised Remedial Strategy

Ground Conditions

Made Ground topsoil was found to a depth of 0.2m with general Made Ground present to a maximum proven depth of 2.7m bgl comprising clayey sandy gravel, clayey gravelly sand, and sandy gravelly clay with high cobble content.

Made Ground encountered within the waste mounds comprised dark grey brown slightly clayey sandy gravel with a high cobble content. The gravel comprised brick, plastic, glass, wood and concrete.

Cohesive Estuarine Alluvium deposits comprising sandy gravelly Silt or soft to firm slightly sandy Clay was encountered at depths between 2.0m and 4.7m bgl. Granular Estuarine deposits comprising dense light orange brown sandy Gravel or very gravelly Sand with low to medium cobble content was encountered at depths between 3.6m to a maximum proven depth of 10.0m bgl.

Geo-Environmental Testing - Soils

30 No. samples of Made Ground were screened for the presence of asbestos fibres. Quantification analysis was undertaken on 21 of the samples across the site which had a positive identification for asbestos fibres.

Two samples of suspected ACM fragments were tested for identification, Chrysotile and cement type material was identified in both samples.

7 No. natural samples and 5 No. Made Ground samples were analysed for metals. No exceedances were recorded from the natural samples tested. Exceedances were recorded in two samples of Made Ground from the waste mounds which are to be removed offsite.

9 No. natural samples and 7 No. Made Ground samples were tested for TPH CWG including BTEX. Exceedances of Benzene was recorded in ABH04 at 3.8m bgl. An exceedance in TPH Aromatic C16-C21 was recorded in ATP06 at a depth of 2.0m to 2.1m bgl. Both exceedances were in natural strata.

Geo-Environmental Testing - Vapours

9 No. natural samples were analysed for Contaminants of Concern, exceedances of Naphthalene were recorded in two samples from ABH04, benzene in one sample from ABH04, and TPH Aromatic C16-C21 in one sample from ATP-6. All of these samples are in the vicinity of the former PFS in the eastern site area.

It is considered unlikely that there is a risk of vapour generation to future site users in areas of soft landscaping due to the presence of heavy end hydrocarbon fractions and the depth of which they were identified. Any hardstanding will effectively sever the pathway for exposure from vapours. A watching brief should still remain in place and the removal of residual LNAPL and removal of overtly TPH impacted soils should be carried out in order to address any issues relating to odours and quantitative vapour risks.

Geo-Environmental Testing - Groundwater

21 No. groundwater samples were collected from the mobile groundwater and screened for metals. 13 No. exceedances in Copper, Manganese and Zinc were recorded. Most exceedances were in the same order of magnitude as the EQS, however Copper and Manganese were up to twice the EQS, but not regularly exceeded. Zinc concentrations were recorded at 7 to 8 times the EQS. There is a modest degree of metallic impaction of the mobile groundwater due to infiltration and leaching from site soils. Development of the site will reduce infiltration and this mitigation is integral to the design. Groundwater migrates towards the coast and the inter-tidal River Afan therefore significant dilution of metals will rapidly occur.

All 21 No. groundwater samples screened for speciated PAHs were below the laboratory limit of detection in all three monitoring rounds.

All 21 No. groundwater samples screened for TPH CWG and BTEX were below the laboratory limit of detection. This indicates that previous results from the Quantum investigation in 2015 were a “false positive” and representative of water quality encountered in shallow excavations where control of water ingress and the recovery of residual LNAPL will need to be undertaken.

Data from the LIF probe indicates that LNAPL is present as residual pockets of weathered LNAPL likely associated with former petrol station and tanks, but there is no site wide mobile or recoverable layer of LNAPL. There are likely some areas where quantities of LNAPL will allow for the use of physical recovery methods to remove LNAPL from the water surfaces.

Waste Disposal Testing - Stockpiles

6 No. samples of Made Ground from the waste mounds were identified as *Hazardous* and 4 No. other samples were classified as *Non-Hazardous*.

Waste Disposal Testing – Made Ground

39 No. samples of general Made Ground from across the site were analysed and 5 No. were classified as *Hazardous* with respect to TPH, 5 No. were classified as *Hazardous* due to the concentration of metals and speciated PAH compounds, the remaining soils were classified as *Non-Hazardous*.

Remedial Strategy

The below recommendations have been made:

- *It is recommended that 90% of the site is covered in hardsurfacing with an imported clean cover layer 800mm thickness in soft landscaped areas to mitigate any risk relating to the exposure of future site users to contaminated soils or the inhalation of indoor and outdoor vapours.*
- *Water supply pipes should be protected with barrier piping to prevent the infiltration contamination to drinking water.*
- *A watching brief should be maintained during the works to identify any areas of residual LNAPL. Impacted materials should be removed and the remaining soils should be validated against the LQM/CIEH soil saturation limit values.*
- *A materials management plan should be in place to segregate impacted material from 'clean' material to minimise the volume of material requiring disposal as Hazardous Waste.*
- *All impacted excavated materials including the waste mounds that are in excess to the development plans should be disposed of in accordance with relevant waste legislation.*
- *Asbestos fibres are present in the Made Ground and suitable measures should be in place to mitigate the risk of airborne fibres.*
- *Concrete and tarmac should be recycled and used onsite where possible.*
- *Below ground obstructions and foundations should be removed and recycled where appropriate.*
- *A full services survey should be undertaken to identify unmarked services including the brick culvert which may require further investigation.*
- *Removal of below ground fuel tanks if encountered and validation of remaining soils.*

All relevant site features are recorded on the Preliminary Development Constraints Plan GRO-21252-P02.

4.0 ENVIRONMENTAL SETTING

4.1 Site History

Available historical maps have been obtained, a list of dates and scale are listed in the table below:

Scale	Date
1:1,250	1950/51, 1951/52, 1958, 1957/62, 1967, 1964/68, 1971/75, 1979, 1988/91, 1989/93, 1991/93, 2003.
1:2,500	1881, 1899, 1917, 1939, 1951/53, 195/957, 1967/68.
1:10,000/10,560	1884, 1897/1900, 1914, 1921, 1947, 1957, 1957/62, 1965, 1980/82, 1993/95, 2001, 2010, 2021.

The plans were examined and potential issues have been identified and summarised in the table below:

Date	Site	Surrounding Area
1881	Site is occupied by Burrows Tin Plate Works with numerous buildings. Possible pond in western area.	Port Talbot Chemical Works immediately to the north. Marshland immediately south east. Afon-vale Tin Plate Works c.100m east. Tramway c.100m south. Marshland immediately south and c.100m west. Gas Works c.150m north east.
1897-1900	Possible pond no longer shown, infilled .	Margam & Mansel Tin Plate Works c.150m east. Iron Foundry c.100m southwest. Gasometer c.400m west.
1899	Site no longer labelled as Burrows Tin Plate Works . Railway lines on western area.	Port Talbot Chemical Works immediately to the north now residential housing fronted by Scythian Road. Glanwalia Tin Plate Works immediately west. Saw Mill c.100m north east. Tin Plate Works c.110m east now 'disused'. Port Talbot Railway c.110m south. Port Talbot Iron Foundry c.120m south west. Swansea Bay Railway c.150m south west Gas Works c.150m north east no longer indicated.
1914	No apparent change.	Iron Works c.100m southwest. Port Talbot Steel Works c.450m east.
1917	No significant change.	Afon-vale Tin Plate Works c.100m east no longer present, presumed demolished.
1939	Tin Plate Works occupying western site area. Tank positioned centrally.	No apparent change.
1950/51	Tin Plate Works renamed Boro' Tinplate Works . Talbot Works Bakery Engineering in eastern site area. Additional Tank within Boro' Tinplate Works . Two Chimneys within Boro' Tinplate Works . Well in northern site area. Travelling Crane centre of the site. Residential dwellings in northern site area.	Slaughterhouse immediately east. Garage c.50m south west. Talbot Works Bakery Engineering c.55m south west. Engineering Works c.75m south west. Self-Sentering Works c.90m east. Allotment Gardens c.100m north west. Wagon Works c.110m south east. Numerous Chimneys c.120m south east.
1957/62	Tinplate works renamed Corporation Yard . Mortuary east of residential dwellings.	Three Warehouses c.50m south west.

	<i>Well in central eastern area.</i>	
1958	No apparent change.	Self Sentering Works c.90m east renamed Works .
1964/68	Bakery Engineering Works renamed Sign Posts Works .	Pump House c.50m south Engineering Works c.75m south west renamed Bottle Top Works .
1967/68	No apparent change.	Works c.90m east renamed Repair Works .
1971/75	Residential dwellings no longer indicated, presumed demolished .	Bottle Top Works c.75m southwest renamed Metal Closures Works . Tyre Depot c.70m south east and c.100m east.
1979	No apparent change.	Works c.90m east renamed Depot & Garage .
1988/91	Electricity Substation southern corner of the site.	Metal Closure Works c.75m southwest renamed Works .
1989/93	Mortuary no longer indicated on site, building remains. Works no longer indicated on site, building remains.	No significant change.
2001	No apparent change.	Port Talbot Industrial Estate c.150m southeast.
2003	No apparent change.	Works c.75m southwest renamed Warehouse & Works . Garage c.110m southwest.
2021	Site vacant, all previous buildings presumed demolished .	No apparent change.

The historical plans are presented in *Appendix 3*.

4.2 Geology

The following British Geological Survey (BGS) records and other available information were inspected to accurately determine the geology underlying the site:

- 1:50,000 Scale Geological Sheet 147 Swansea – Solid and Drift Edition.
- Memoir.
- BGS Records.

Made Ground

Made Ground is not indicated to be present on site on the BGS maps. However, the previous investigations encountered 2 to 3m of Made Ground relating to historical land usage.

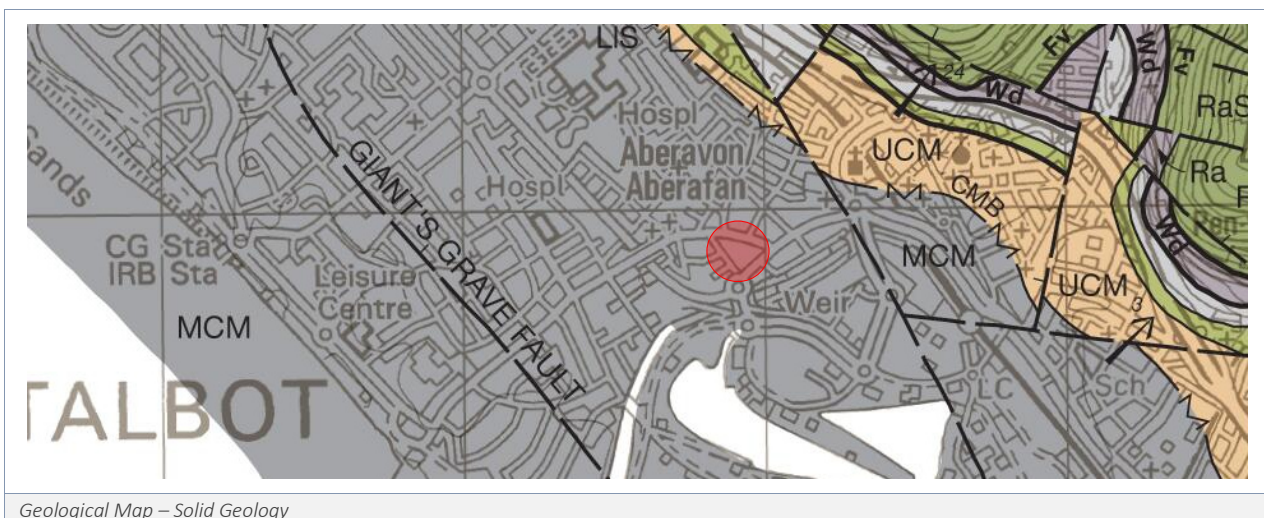
Superficial Deposits

The site is indicated to be underlain by Estuarine Alluvium Deposits which characteristically comprises Clay, Silt and Sand.



Solid Geology

The solid geology beneath the site is indicated to be of the South Wales Middle Coal Measures Formation comprising Mudstone, Siltstone, Sandstone and Coal seams.



Geological Faults

No faults are shown on or within an influencing distance of the site. The nearest fault is 0.3 miles to the east.

4.3 Hydrogeology

The superficial Estuarine Alluvium Deposits in this area are classified by the Environment Agency as a Secondary Undifferentiated Aquifer. This is assigned where it is not possible to attribute either category A or B to a soil type. In general, these layers have been previously designed as both minor and non-aquifer in different locations due to the variable characteristics of the rock type.

The South Wales Middle Coal Measures Formation bedrock is classified as Secondary A Aquifer comprising permeable layers capable of supporting water supplies at a local level rather than a strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

The soils beneath the site are classified as being of high leaching potential.

The site is not within 500m of a Source Protection Zone and there are no groundwater or potable water abstractions within 2000m of the site.

4.4 Hydrology

The nearest named watercourse is the River Afan which is circa 86m south. The overall rating of the river is Moderate, with a Good chemical rating and a Moderate ecological rating in 2016.

Environment Agency information indicates that the site lies within land that is naturally vulnerable to surface water ponding or flooding. A 1 in 30-year event is likely to result in 0.1m to 0.3m flooding.

The nearest active surface water abstraction is circa 107m south east relating to process water for usage by Tata Steel UK Ltd.

4.5 Environmental Consultations

A request has been submitted to the Contaminated Land Officer at Castell-nedd Port Talbot – Neath Port Talbot County Borough. At the time of writing the report a response was outstanding.

An environmental consultation has been conducted through Groundsure, which accesses British Geological Survey and Environment Agency databases. The complete Groundsure Report can be found in *Appendix 4* and a summary of the more relevant points is presented in the table below.

Record	<250m	250 – 500m	Description
<i>Authorised Processes</i>	-	1	<i>This is a Part B permit 448m east relating to a waste oil burner.</i>
<i>Pollution Incidents</i>	13	12	<i>Nearest was 9m north east relating to lubricating oils. General bio-degradable waste had a minor land impact 57m south east. A minor incident c.146m south west relating to dust.</i>
<i>Landfill and Waste Treatment</i>	3	3	<i>A scrap metal yard was c.118m east. Recycling centre was 212m south east.</i>
<i>Discharge Consents</i>	8	4	<i>Nearest was a discharge into the River Afan c.12m south east.</i>
<i>Petrol Filling Stations</i>	1	1	<i>An obsolete petrol filling station was present on site.</i>
<i>Current Industrial Uses</i>	24	-	<i>The nearest is c.20m north relating to Electronic Equipment. Unspecified tank 82m south west. Electricity substation 168m east.</i>

4.6 Radon

Map 11 Southwest Wales from BRE 211 and HPA were examined which defines areas requiring radon protective measures. The probability is less than 3% and the site is not an area requiring radon precautions in foundations in accordance with BRE Report 211 'Radon – Guidance on protective measures for new dwellings' 2015 Edition.

The radon data in the Groundsure report is supplied by the BGS/Public Health England and is the definitive map of Radon Affected Areas in Great Britain and Northern Ireland, the Groundsure report contradicts the Groundsure report recommendations and indicates that less than 1% of properties are affected and no radon

protection measures are required. The dataset was created using long-term radon measurements in over 479,000 homes across Great Britain and 23,000 homes across Northern Ireland, combined with geological data. The dataset is considered accurate to 50m to allow for the margin of error in geological lines, and the findings of this report supersede any answer given in the less accurate Indicative Atlas of Radon in Great Britain, which simplifies the data to give the highest risk within any given 1km grid square.

4.7 Coal Authority Consultation

The site lies in an area where the Law Society and Coal Authority recommends a mining consultation is undertaken due to past or current mining possible affecting the site.

A consultation was carried out with the Coal Authority, which is presented in *Appendix 5*, the main findings are outlined below.

Past Mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

Present Mining

The site is not within a surface area that could be affected by present underground mining.

Future Mining

The property is not in an area where the Coal Authority are determining whether to grant a licence to remove coal by underground workings.

The property is not in an area likely to be affected at the surface by any planned underground workings.

Reserves of coal exist in the local area that may be worked in the future.

No notice of the risk of land being affected by subsidence has been given under section 46 of the Coal Mining Subsidence Act 1991.

Mine Entries

There are no records of any mine entries on or within 20m of site boundary.

Coal Mining Geology

The Authority is not aware of any damage arising due to geological faults or lines of weakness that have been affected by coal mining.

Opencast Coal Mining

The property is not in an area affected by past or present coal mining extracted by opencast methods. The property is also not in an area affected by a proposed opencast coal mine.

Subsidence

The Coal Authority has not received a damage notice or claim for the subject property or within 50m since 31 October 1994.



Mine Gas

There is no record of mine gas emission requiring action by the Coal Authority within the boundary of the property.

Withdrawal of Support

The property is not in an area which notice of entitlement to withdraw support has been published.

Working Facilities Order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

5.0 CONCEPTUAL SITE MODEL AND RISK ASSESSMENT

5.1 Introduction

The potential level of risk posed by contaminants in soil and/or groundwater will be influenced by the type and concentration of the contamination at source, the likelihood of exposure occurring, the potential pollution linkages and the likely chronic or acute effects on the receptors.

A contaminant is defined as a substance that has the potential to cause harm, a risk is considered to exist if such a substance is present at sufficient concentrations to cause harm and if a pathway is present a receptor could be exposed to the contaminant.

Section 4.0 compiles the information from the previous sections to assemble a Conceptual Site Model to inform the risk assessment process. The potential sources identified on the site and off the site that are within influencing distance are assessed to determine if pollution linkages exist and an unacceptable risk is posed to human health and controlled waters. The assessment has been carried out on a qualitative basis and aims to produce a complete and comprehensive Preliminary Conceptual Site Model, the potential pollution linkages are displayed on Plan *GRO-21252-P03* Illustrative Preliminary CSM.

Three potential types of impacts exist for a site and all three need to be considered in the qualitative preliminary risk assessment:

- *Impacts from sources on the subject site.*
- *Impacts to the surrounding area from the subject site.*
- *Impacts to the subject site from the surrounding area.*

5.2 Potential Contamination Sources

Onsite Sources and Associated Contaminants of Concern (CoC)

From the information obtained during the preliminary risk assessment there are several potential contaminative sources identified onsite which may affect the redevelopment of the site for commercial end use. These include the following:

- *General Made Ground*
- *Tin Plate Works*
- *Railway Line*
- *Tanks*
- *Engineering Works*
- *Chimneys*
- *Demolished buildings*
- *Mortuary*
- *Electricity Substation*
- *Petrol Filling Station*
- *Infilled pond*
- *Corporation Yard*
- *Perched Groundwater*
- *Existing stockpiles*

The relevant DoE Industry Profiles were consulted with regards to the sites historic industrial uses and the associated contaminants are presented below:

Industry Profile	Associated Contaminants of Concern	Required Testing
<i>Railway Lands</i>	<i>Fuel derived hydrocarbons, lubricating oils, creosote, herbicides, speciated PAHs PCBs, asbestos and ash.</i>	<i>Metals, speciated PAHs, Total Petroleum Hydrocarbons (TPH CWG), Volatile Organic Compounds (VOCs), Semi Volatile Organic Compounds (SVOCs), asbestos.</i>
<i>Tin Plate Works</i>	<i>Potassium stannate, tin metal, boric acid, sulphuric acid, sodium acetate, sodium stannate, phenol sulphonic or cresol sulphonic acid.</i>	<i>Metals, speciated PAHs, TPH CWG, VOCs, SVOCs.</i>
<i>Petrol Filling Station</i>	<i>Organic compounds, MTBE (Anti-Knocking Agent), chlorinated hydrocarbons, heavy metals, lubricating oils, and PAHs.</i>	<i>Metals, speciated PAHs, Total Petroleum Hydrocarbons (TPH CWG), Volatile Organic Compounds (VOCs), Semi Volatile Organic Compounds (SVOCs).</i>

General Made Ground has been recorded beneath the site and Contaminants of Concern identified were confirmed in subsequent laboratory testing. These contaminants include elevated tin leachate, cadmium leachate, mercury leachate, benzene, TPH Aromatic C16-C21, and asbestos.

Elevated levels of naphthalene, benzene, and TPH Aromatic C16-C21 identified from the previous investigations are spatially situated in the footprint of the former petrol filling station and are likely to be related.

Heavy metal contamination has been detected across the entire site, which is associated with the former tin plating works that occupied a large area in the south west of the site.

No elevated concentrations of Polychlorinated Biphenyls have been identified surrounding the electricity substation.

Potentially harmful volatile vapour emissions from shallow hydrocarbon impacted soils is likely, and PID screening results from the Quantum investigation indicate the potential for significant risk. The backfilled pond coupled with the tidal flat deposits are also sources of potentially harmful ground gases.

Offsite Sources and Associated Contaminants of Concern (CoC)

Several potential contaminative sources have been identified within influencing distance offsite, including:

- *Glanwalia Tin Plate Works immediately west.*
- *Slaughterhouse immediately east.*
- *Engineering Works c.90m east, c.50m south west, and c.75m south west.*
- *Pump house c.50m south.*
- *Garage c.50m southwest and c110m south west.*
- *Marshland immediately south east and c.100m west.*
- *Iron Foundry c.100m south west.*
- *Sawmill c.100m north east.*
- *Tyre depot c.100m east.*
- *Allotment gardens c.100m north west.*
- *Railway c.110m south.*
- *Wagon Works c.110m south east.*
- *Port Talbot Chemical Works c.150m north east.*
- *Swansea Bay Railway c.150m south west.*

- *Port Talbot Industrial Estate c.150m south east.*

The area surrounding the site has historically been associated with heavy industry such as railway land, sawmills, and chemical works, all of which are potential sources for metals, PAHs, VOCs, SVOCs, and asbestos. A slaughterhouse was present immediately to the east, which according to the DoE profile may be a source of solvents, acids, alkalis, detergents, bleaches, and fuel oils. According to the DoE profile, the garages to the south and southwest are both potential sources of fuel derived hydrocarbons.

The marshland immediately to the south east and 100m to the west are potential sources of harmful ground gases.

5.3 Pollution Linkages

The definition of a pollution linkage is a medium which allows a contaminant to impact a receptor. Potential pollution linkages have been recognised for the commercial development from the identified contamination sources that exist.

At this stage, the contaminants identified above are considered to potentially pose an unacceptable risk to human health and controlled waters through the following pollution linkages:

- *Direct soil and dust ingestion.*
- *Dermal contact with soil both indoors and outdoors.*
- *Indoor air inhalation from soil and vapour.*
- *Outdoor inhalation of soil and vapour.*
- *Migration and accumulation of ground gas into internal spaces.*
- *Impaction of groundwater from soil contamination (diffuse and point).*
- *Impaction of groundwater from groundwater plume.*
- *Migration of soil and groundwater contamination impacting surface waters.*

5.4 Receptors

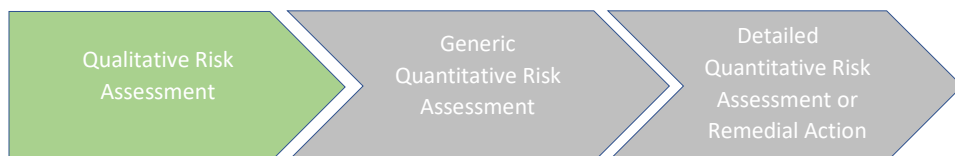
Receptors generally fall into the categories of human health or controlled waters within the river basin system. The recognised receptors are listed below:

- *River Afan c.86m south.*
- *Secondary A Aquifer (Bedrock).*
- *Future site end-users.*
- *Water supply pipes.*

5.5 Preliminary Conceptual Site Model (CSM)

The factual information obtained from the consultations and summarised in Section 2.0 and 3.0 has been used to compile a Preliminary CSM. Using Source-Pathway-Receptor assessment criteria that is applicable in the UK, a risk assessment has been completed to determine if a plausible pollution linkage exists between the identified contaminants and receptors. The risk classification has been estimated in accordance with the CIRIA C552 assessment criteria outlined in *Appendix 6*.

Human Health Pollution Linkage Assessment



- The table below represents the first stage in the land quality risk assessment process - **the Qualitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					Qualitative Risk Assessment	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	Rationale and Action
PL1	Contaminated Soils	Ingestion of soil and dust. Dermal contact with soil.	Unlikely	Medium	Low	Pollution Linkage 1 refers to proposed site users encountering contaminated soils on the site. The site is currently vacant, but has been previously used as a Tin Plating Works, general Engineering Works, Railway, Petrol Filling Station, and an electricity substation is present in the south eastern corner of the site. Contaminated Made Ground is present on site as indicated from the previous Ground Investigations and the historical land uses highlighted in the desktop study. Tanks have been indicated to be present onsite both above ground and below ground. A wide range of materials may have been stored in the tanks including but not limited to fuel derived hydrocarbons, organic compounds, inorganic compounds, sulphur containing compounds, metals and metalloids. Any of these contaminants may have impacted the area as a result of potential spillages/leakages. Depending on the age of the electricity substation in the south eastern corner of the site, PCBs may have been used as a cooling agent within the transformers, however

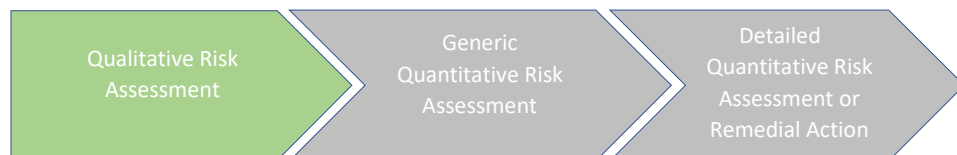
Conceptual Site Model					Qualitative Risk Assessment	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	Rationale and Action
						due to the relative immobility, the small volume used and the substation situated on a concrete base - they are unlikely to have impacted the site significantly. Widespread asbestos has been identified across the site by the previous investigations by Quantum and Arcadis which pose a threat to human health and site end users. The proposed development is to be largely covered in hardsurfacing therefore breaking the pollution linkage and significantly reducing the risk posed to site end users from ingesting contaminated soils. In any areas of soft landscaping a cover system and a hard dig layer would likely be required to prevent ingestion or dermal contact with contamination.
PL2	Contaminated Soils	Inhalation of vapour.	Low likelihood to Likely	Medium to Severe	Moderate to High	This pollution linkage refers to volatile vapours migrating into confined spaces within the proposed development. The previous investigation by Arcadis found evidence for the shallow impaction of soils with hydrocarbons, and to mitigate against the risk of vapours, recommend that as a precaution gas/vapour protective measures alongside sub floor voids should be incorporated into the design of all buildings. A viable pollution linkage has been identified.

Conceptual Site Model					Qualitative Risk Assessment	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	Rationale and Action
PL3	Contaminated Soils	Inhalation of soil dust by adjacent site users.	Unlikely	Medium	Low	<i>Pollution Linkage 3 relates to contamination on the subject site affecting adjacent site users. All the contaminative sources identified on site are indicative of the surrounding area and potentially less impactful sources than the surrounding sources, therefore no plausible pollution linkage is considered to exist.</i>
PL4	Contaminated Soils	Attacking potable water supply pipe.	Likely	Medium	Moderate to High	<i>Pollution Linkage 4 refers to the possible contaminants permeating potable water pipes and consumption by the future site end users of the tainted water supply. Made Ground will be present at installation depth which is contaminated with a range of contaminants including hydrocarbons. New potable water supply pipes will be included as part of the development and a pollution linkage is considered to exist, standard PE pipe is unlikely to be suitable. A local water company risk assessment is required prior to construction to advise on the level of protection required for the potable water supply.</i>
PL5	Ground Gas	Migration and accumulation of ground gas in internal spaces.	Likely	Medium to Severe	Moderate to High	<i>Deep Made Ground is likely present beneath much of the site due to the presence of the historic Tin Plate Works, Engineering Works, Well and previously demolished buildings. Depending on the composition of the backfill material ground gases may be generated.</i> <i>The surrounding areas particularly to the south and west were historically marshland, and the decay of the organic material is a potential ground gas source including from the Tidal Deposits.</i>



Conceptual Site Model					Qualitative Risk Assessment	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	Rationale and Action
						Potential onsite and offsite sources of ground gases have been identified therefore the installation and subsequent monitoring of ground gas wells is required. The site is not within an area requiring radon precautions.

Controlled Waters Pollution Linkage Assessment



- The table below represents the first stage in the land quality risk assessment process – **Qualitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					Qualitative Risk Assessment	
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	Rationale
PL6	Contaminated Soils	Impaction of groundwater from soil contamination (diffuse and point). Impaction of groundwater from groundwater plume.	Unlikely	Medium	Low	Pollution Linkage 6 refers to the impact of the Secondary Undifferentiated Superficial Aquifer and the Secondary A Bedrock Aquifer on site. From previous investigations and the historical land use of the site, it is known that contaminated Made Ground is present on site. The main use for the site has been as a Tin Plating Works which is likely to have resulted in gross contamination from a range of contaminants including metals, organic acids, solvents, PCBs and hydrocarbons. Information obtained from the previous Ground Investigations indicate that although the perched groundwater within the Made Ground is contaminated with hydrocarbons, this groundwater is not mobile, nor indicative of the mobile groundwater within the Secondary Undifferentiated Superficial Aquifer on site. There is evidence for the local background impact of metal contamination on the groundwater in the area, and also the indication of slight impairment as water passes beneath and through the site. This is likely due to the sites historical use as a Tin Plating Works and the surrounding areas numerous historical metal plating works.

Conceptual Site Model					Qualitative Risk Assessment	
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	Rationale
						Geological maps indicate and previous investigations confirm that the site is underlain by cohesive Estuarine Alluvium deposits overlying granular deposits. A pollution linkage is not considered to exist between potentially contaminated perched groundwater and the Secondary A Aquifer as the cohesive deposits encountered across the site will act as an aquitard preventing the downward migration of contaminated groundwater. The site is not within 500m of a SPZ and the groundwater is not considered to be a sensitive resource. There is not a recorded groundwater abstraction within 2000m of the site. The proposed development is to be largely covered in hard surfacing therefore further reducing the infiltration of water through the contaminated soils, reducing the leaching of potential contaminants. The risk to groundwater is Low.
PL7	Contaminated Soils	Migration of soil and groundwater contamination impacting surface waters.	Low Likelihood	Medium	Low	Pollution Linkage 7 refers to the impaction of the River Afan c.86m south of the site from contaminated soils and groundwater. Sources of mobile contaminated have been identified in the desk-based consultations and through previous investigations by Quantum and Arcadis relating to the industrial history of the site. Based upon information from the previous ground investigations the majority of contamination is found to be perched in Made Ground, which is not mobile nor in continuity with the River Afan, and the migration of groundwater towards the coast will allow for significant dilution of contaminants. The risk to surface waters is Low.

6.0 SCOPE OF INVESTIGATION AND RATIONALE

6.1 Project Objectives

The aim of the fieldwork was to:

Determine the stratification beneath the site
Maintain a watching brief for visual and olfactory evidence of contamination
Obtain samples using methodology in current guidance for contamination analysis
Identify realistic pollution linkages to groundwater
Obtain relevant geotechnical parameters for preliminary foundation design to address both ULS and SLS conditions
Determine if targeted supplementary investigation in areas of concern is required and for remedial design
Install monitoring standpipes for gas and groundwater monitoring
Assess the identified pollution linkages in the CSM
Confirm the findings of the previous Ground Investigations
Achieve better coverage tailored to revised development layout
Locate below ground obstructions associated with previous development

6.2 Scope of Works

The following scope of works was completed between the dates of 29th of September and 4th of October:

- 4 No. cable percussive boreholes (CP01 to CP04) to a maximum depth of 7.0m bgl.
- 6 No. windowless sample boreholes (WS01 to WS06) to 4.0m bgl.
- 15 No. machine dug trial pits (TP01 to TP15) were excavated to a maximum depth of 3.4m bgl.
- 6 No. plate load tests were carried out at proposed formation level.

The exploratory hole locations are presented on Groundtech Plan GRO-21252-P04 and the exploratory hole logs are presented in Appendix 7.

The exploratory holes were positioned to establish the stratification beneath the site, and target any areas of concern as summarised in the table below:

Location	Target Rationale
TP03, TP04 WS06	Former Petrol Filling Station
TP03 to TP05, WS05, WS06, CP04	Above ground Tanks
TP02, TP13, TP15 WS03	Backfilled Pond
TP06, TP08, TP12 WS01 CP03	Former Tin Plating Works
TP06 WS01	Former railway
TP07, TP14	Electricity Substation
WS05	Former Corporation Yard

CP02	
CP01 – CP04	Proposed Aldi store building footprint

The exploratory holes were logged by a suitably experienced geo-environmental engineer in general accordance with the following current guidance:

- BS 5930 'Code of Practice for Site Investigations' 2015.
- BS EN 14688-1:2002 'Geotechnical Investigation and Testing – Identification and classification of soil'.

6.3 Soil Sampling

During the intrusive investigation, representative samples were taken at regular intervals, changes of strata and where evidence of contamination existed. Laboratory analysis was scheduled on the samples obtained.

The samples obtained are summarised in the table below:

Soil Sample	Number
Environmental Sample	101
Disturbed Sample	37
Undisturbed U100 Sample	3

The samples have been obtained in accordance with current environmental and geotechnical guidance. The sampling plan has been designed to obtain samples from all required strata using the correct methodology.

Disturbed samples of soil for geo-environmental testing were placed in the correct sampling containers as required by the laboratory in accordance with their MCERTS and UKAS Accreditation. Transportation was arranged in a timely manner and the samples were at the correct temperature.

The sample locations and depths are recorded on the exploratory logs.

6.4 Geo-Environmental Testing

To inform the Generic Quantitative Risk Assessment, the following geo-environmental testing was scheduled to assess the risk from contamination on the site. The testing is based on the potential sources identified in the PRA and observations during the Ground Investigation.

Contaminants of Concern	Matrix	Number
Arsenic, cadmium, chromium (total and hexavalent), copper, lead, mercury, nickel, selenium, zinc and pH	Soil	15
Speciated Polycyclic Aromatic Hydrocarbons (PAH16)	Soil	15
Asbestos Screening	Soil	15
Asbestos Quantification	Soil	4
Total Petroleum Hydrocarbons (TPH CWG) and BTEX	Soil	6
PolyChlorinated Biphenyls (PCBs)	Soil	2
Volatile Organic Compounds (VOCs)	Soil	6
Semi-volatile Organic Compounds (SVOCs)	Soil	6
Waste Acceptance Criteria (WAC)	Solid and Eluate	4

<i>Arsenic, cadmium, chromium (total and hexavalent), copper, lead, mercury, nickel, selenium, zinc and pH.</i>	<i>Groundwater</i>	<i>4</i>
<i>Speciated Polycyclic Aromatic Hydrocarbons (PAH16)</i>	<i>Groundwater</i>	<i>4</i>
<i>Total Petroleum Hydrocarbons (TPH CWG) and BTEX</i>	<i>Groundwater</i>	<i>4</i>
<i>Volatile Organic Compounds (VOCs)</i>	<i>Groundwater</i>	<i>4</i>
<i>Dissolved Organic carbon</i>	<i>Groundwater</i>	<i>4</i>
<i>Hardness</i>	<i>Groundwater</i>	<i>4</i>

The Geo-Environmental Laboratory Testing Results for the soils are presented in *Appendix 8* and the groundwater results are in *Appendix 9*.

Representative disturbed samples were obtained for all soil types encountered. Selected samples were scheduled for testing at an approved laboratory in accordance with BS 1377 'Method of Test for Soils for Civil Engineering Purposes' 1990. The following tests were scheduled:

British Standard	Test Method	Number
<i>Part 2</i>	<i>Water Content</i>	<i>4</i>
<i>Part 2</i>	<i>Plasticity Index Analysis</i>	<i>4</i>
<i>Part 3</i>	<i>pH Value</i>	<i>5</i>
<i>Part 3</i>	<i>Water Soluble Sulphate Content</i>	<i>5</i>
<i>Part 7</i>	<i>Undrained Shear Strength in Triaxial Compression</i>	<i>4</i>

The Geotechnical Laboratory Testing Results are presented in *Appendix 10*.

6.5 Gas and Groundwater Monitoring

Gas and groundwater monitoring installations were constructed in the boreholes. The standpipes consisted of polyvinyl chloride (PVC) and high-density polyethylene (HDPE) pipe - a bentonite seal was placed around the plain pipe and a clean gravel pack was placed around the slotted pipe. A summary of the installation construction is presented in the table below:

Location	Depth	Response Zone (m bgl)	Targeted Strata	Reason
<i>CP01</i>	<i>6.0</i>	<i>5.0 - 6.0</i>	<i>Natural</i>	<i>Groundwater</i>
<i>CP02</i>	<i>7.0</i>	<i>6.0 - 7.0</i>	<i>Natural</i>	<i>Groundwater</i>
<i>CP03</i>	<i>6.0</i>	<i>5.0 - 6.0</i>	<i>Natural</i>	<i>Groundwater</i>
<i>CP04</i>	<i>6.0</i>	<i>4.0 - 6.0</i>	<i>Natural</i>	<i>Groundwater</i>
<i>WS02</i>	<i>4.0</i>	<i>1.0 - 4.0</i>	<i>Made Ground and Natural</i>	<i>Ground Gas</i>
<i>WS03</i>	<i>2.0</i>	<i>1.0 - 2.0</i>	<i>Made Ground</i>	<i>Ground Gas</i>
<i>WS05</i>	<i>4.0</i>	<i>1.0 - 4.0</i>	<i>Made Ground and Natural</i>	<i>Ground Gas</i>
<i>WS06</i>	<i>4.0</i>	<i>1.0 - 4.0</i>	<i>Made Ground</i>	<i>Ground Gas</i>

Permanent gas and flow rate monitoring was carried out using a GFM 436 infrared gas monitor with integral electronic flow analyser. The measurements taken are listed below:

- *Oxygen (O₂), carbon dioxide (CO₂) and methane (CH₄) as the percentage volume in air (%v/v).*
- *Hydrogen sulphide (H₂S) and carbon monoxide (CO) as the percentage volume in air (%v/v).*
- *Lower Explosive Limit (%LEL) of methane.*

- *Atmospheric and borehole pressure, including pressure trend.*
- *Flow measurements (l/hr).*
- *Weather and ground surface conditions.*

Both peak and steady state conditions were monitored to understand the behaviour of the permanent ground gas, the steady state conditions were recorded by allowing the gas monitor to run for a minimum of 3 minutes.

Interim permanent gas and groundwater monitoring results are presented in *Appendix 11*.

6.6 Groundwater Sampling

Well development was carried out to ensure no cross contamination from the drilling activities remained in the water column in the well. The installations were purged to a minimum three times the volume of the water column in the borehole prior to sampling.

The method of sampling selected was by low flow pumping due to the contamination identified during the previous investigations. Where possible, a water meter was used to test the pH, temperature and conductivity before sampling until equilibrium conditions were met in accordance with BS 10175 guidelines.

Samples were sent to the UKAS Accredited laboratory the same day sampling was carried out in general accordance with BS 5930 and BS 5667.

6.7 Vapour Survey - Photo Ionisation Detector

Standard sampling protocol and preservation of samples was undertaken as described in the EA guidance on site investigation. The on-site monitoring was carried out in line CIRIA C6658 to aid targeting samples for VOC laboratory analysis.

Soil was collected for onsite testing, a plastic bag was half filled with soil allowing a suitably sized headspace. The bag was sealed and stored for at least 20 minutes before being tested for Total Volatile Organic Compounds (TVOCs) using a Photo Ionisation Detector (PID).

Results of the PID readings are presented on the exploratory hole logs.

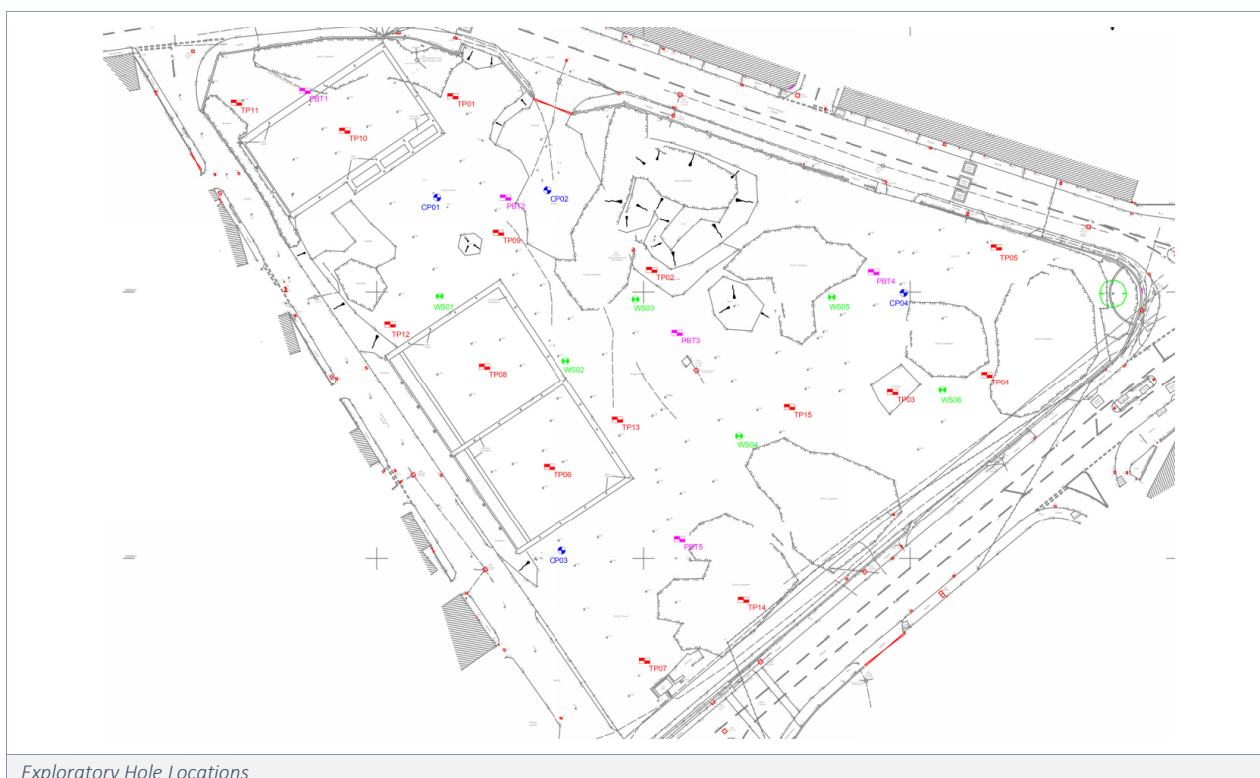
7.0 GROUND MODEL

7.1 Made Ground

As part of the Groundtech Consulting investigation, Made Ground has been encountered to depths of between 1.0m and 2.9m bgl. Four main Made Ground populations were encountered during the investigation and are described below:

Locations	Depth	Thickness (m bgl)	Description
WS03 to WS05 TP01, TP06	GL – 0.25	0.25	Brown sandy gravelly topsoil with occasional cobbles of brick and concrete. Gravel is of concrete and brick.
CP01 to CP04 WS03, WS04, WS06 TP01 to TP05, TP07, TP08, TP10 to TP15	GL – 2.2	0.3 – 1.7	Brown sandy cobbly gravel of mixed lithologies including brick, coal and concrete.
WS01 to WS06 TP03, TP05, TP13, TP15	0.2 – 2.2	0.25 – 1.6	Black sandy gravel and variably gravelly sand. Gravel is of mixed lithologies including ash, clinker, coal, shale and slag.
WS01, WS05 TP07, TP08, TP12, TP15	0.75 – $\pm$ 2.0	0.2 – 2.8	Red brown locally silty, clayey variably gravelly sand. Gravel is of mixed lithologies including concrete, ash and clinker.

Concrete hardsurfacing was present from ground level within TP02, TP03 and TP05 to a maximum depth of 0.15m bgl – these locations were in the southern and eastern areas. The concrete was underlain by tarmac within TP02 to a depth of 0.2m bgl.



All Made Ground populations that were encountered across the site were granular in nature. Made Ground was found to a maximum depth of 2.9m bgl within CP03 comprising sandy gravel of brick and concrete. This borehole was situated within the footprint of the former Tin Plate Works. Generally, Made Ground was recorded to depths between 1.3m and 2.0m bgl.

Evidence of in-situ relic substructure recovered as cobbles of brick was present within TP06 likely associated with the former Tin Plate Works. Substructure was also encountered within TP07 and TP14, this largely comprised brick with subsidiary concrete, and were within the eastern site area.

7.2 Natural Ground

The natural strata encountered generally confirmed the published geological records. Three main natural stratification were encountered during the investigation and are described below:

Locations	Depth (m bgl)	Thickness (m bgl)	Description
WS02, WS04 TP01 to TP07, TP09, TP10, TP12, TP14, TP15	1.35 – ±4.0	0.1 – 2.2	Soft to firm occasionally stiff grey variably brown sandy Clay.
CP01 to CP04 WS03 - WS05, WS06 TP02, TP05, TP12, TP13	1.2 – 5.3	±0.1 – 3.8	Soft grey variably brown silty Clay. Locally organic.
CP01 to CP03 WS02, WS03 TP08, TP12	1.9 – ±7.5	0.4 – 2.1	Dense brown fine to medium Sand and Gravel of mixed lithologies.

7.3 Bedrock

Bedrock was not encountered in this investigation.

7.4 Groundwater

The table presented below summarises the groundwater encountered during the investigation:

Location	Depth to Groundwater Strike (m bgl)	Depth to Groundwater after 20 minutes (m bgl)	Strike/Perched	Strata
CP01	5.3	3.5	Strike	Sand and Gravel
CP02	5.0	4.3	Strike	Sand and Gravel
CP03	2.0 5.0	1.3 3.5	Perched Strike	Made Ground Sand and Gravel
CP04	5.0	3.0	Strike	Sand and Gravel
TP05	4.2	-	Strike	Tidal Flat Deposits
TP06	1.0	-	Perched	Made Ground
TP07	1.3	-	Perched	Made Ground
TP08	2.8	-	Strike	Sand and Gravel
TP12	2.4	-	Seepage	Tidal Flat Deposits

Groundwater strikes were observed in the natural Sand and Gravel and sandy silty Clay deposits. Perched groundwater was very localised and was encountered within two of the trial pit locations within the Made Ground.

7.5 Watching Brief

A watching brief was maintained during the Ground Investigation for visual and olfactory evidence of contamination.

Most excavations had visual evidence of contamination including ash, coal and slag.

Discolouration and staining within the natural superficial deposits were noted within TP05 at 1.6m bgl, TP15 at 2.2m and 2.7m bgl, WS03 at 1.0m and 1.9m bgl.

Olfactory evidence of contamination was noted within TP01, TP06, TP10, TP13, and TP15 with a moderate to strong hydrocarbon odour.

In TP06, a moderate sheen was present within groundwater suggesting the presence of free phase hydrocarbon contamination.

7.6 Excavation Stability

Spalling was observed in the Made Ground in TP03 at 0.5m bgl, TP06 from 0.5m bgl spalling was observed and trial pits were eventually abandoned.

7.7 Excavation Progress

Slow progress while excavating the trial pits was not experienced.

7.8 Obstructions

The table presented below summarises the extent and nature of obstructions encountered during the trial pitting exercise.

Location	Nature of Obstruction	Depth to Top (m bgl)	Depth to Base (m bgl)
WS01	Concrete	2.0	Unknown
TP01	Concrete slab	0.2	0.3
	Relict tarmac surfacing	0.3	0.5
TP04	Concrete slab	0.5	0.7
TP06	Brick footings	0.5	1.1
	Concrete slab	1.6	1.7
TP07	Concrete slab	0.5	0.6
TP10	Concrete slab	0.8	0.9
TP11	Relict tarmac surfacing	0.4	0.45
	Concrete	1.0	±1.3
TP14	Brick wall with concrete footing	0.5	0.6

The locations of the obstructions are displayed on GRO-21252-P07.

8.0 GROUND ENGINEERING

8.1 Geotechnical Testing Results

A summary of the undrained shear strengths of the Clay strata from the triaxial testing results are summarised below:

Location	Depth (m bgl)	Undrained Shear Strength C_u (kPa)	Strength Description
CP01	3.0 – 3.45	9	Very low strength
CP02	4.0 – 4.45	22	Low strength
CP03	4.0 – 4.45	50	Medium strength
CP04	3.5 – 3.95	11	Very low strength

Comparison of water content and the value of 0.4 times the Liquid Limit in accordance with BRE Digest 412 'Desiccation in Clay Soils' suggests significant desiccation has taken place when 0.4 times the Liquid Limit is greater than the actual water measured water content. This is a rudimentary method but also a good guide.

Results of the plasticity testing and the volume change potential of the Clay is summarised in the table below:

Reference	Depth	Modified PI	Volume Change Potential	Significantly Desiccated Y/N
WS02	2.3	30	Medium	N
WS05	1.5	21	Medium	N
TP09	2.6	31	Medium	N
TP14	1.1	23.8	Medium	N

8.2 Assessment Background

The ground engineering investigation has been undertaken to formulate an accurate ground model to undertake preliminary foundation design. The ground model has been constructed with a moderate to high level of confidence and has evolved from the information obtained by the PRA.

It is proposed to construct a 3050 sqft commercial unit and a 2200 sqft drive thru unit with car parking areas in the eastern site area. To the south west a 1254 sqm Aldi retail store is to be constructed with a service yard to the north, and car parking areas to the east and the southeast.

Made Ground has been encountered to depths of between 1.0m and 2.9m bgl which in turn is underlain by superficial soft to firm very low to low strength Clay to depths of up to 5.3m bgl. Very dense Gravel has been encountered from depths between 3.9m and 5.3m bgl where the cable percussive boreholes were terminated after several hours of chiselling.

Perched groundwater was encountered in TP06 and TP07 at depths of 1.0m and 1.3m respectively within the Made Ground. Elsewhere across the site, groundwater strikes were identified in the natural ground at depths of between 4.2m bgl and 5.3m bgl.

The main limitation is the number of obstructions encountered associated with the developmental history of the site. The obstructions encountered during the Ground Investigation are discussed in Section 7.6 and presented on GRO-21252-P06. As part of the enabling works, all obstructions should be grubbed up. Obstructions were encountered at depths from 0.3m to a maximum proven depth of 1.7m bgl. A concrete obstruction was encountered within WS01 at a depth of 2.0m, the extent of this obstruction was not proven.

In addition, soft very low to low strength Clay is present to depths of up to 5.3m bgl which prevents shallow foundations being feasible. Deep foundations will be required and pile risk assessment is required to ensure a preferential pathway is not created for the contamination in the Made Ground and localised perched groundwater.

There is no risk to the proposed development from historic coal mining.

8.3 Geotechnical Parameters

The geotechnical test results have been evaluated to derive geotechnical parameters for the soils underlying the site. A 'depth to SPT N value' graph is presented as a Generalised Ground Model for the site on GRO-21252-P06 in Appendix 12.

Characterisation of the geotechnical parameters above has been undertaken to select a characteristic value, which is a cautious estimate of the value affecting the occurrence of the limit state.

The characteristic values of the underlying strata have been selected based on correlation with SPT values and through direct measurement from laboratory testing. The characteristic values for Ultimate Limit State (ULS) selected are presented in the table below:

Stratum	Parameter	Selected Characteristic Value
<i>Very low strength Clay</i>	<i>Undrained Shear strength (C_u)</i>	<i>10kN/m²</i>
<i>Low strength Clay</i>	<i>Undrained Shear strength (C_u)</i>	<i>22kN/m²</i>
<i>Medium strength Clay</i>	<i>Undrained Shear strength (C_u)</i>	<i>50kN/m²</i>
<i>Very dense Sand and Gravel</i>	<i>Drained angle of friction (ϕ')</i>	<i>40°</i>

8.4 Preliminary Foundation Design

It is proposed to construct three commercial units cross the site which includes an Aldi store and a number of commercial units. Ultimate Limit State (ULS), Serviceability Limit State (SLS), and Equilibrium Limit State (EQU) conditions must be satisfied by the foundation and structural design.

Traditional shallow foundations are not considered suitable at the site due to Made Ground and natural very low to low strength Clay encountered beneath the proposed development area to depths up to 5.3m bgl. In addition, the very low strength of the clays will preclude the use of shallow reinforced foundations on Vibro Stone Columns (VSCs).

Driven Piles

The most suitable foundation solution is considered to be driven piles transferring loads through the Made Ground and Clay to end bear in the underlying very dense Gravel which has been encountered at depths between 3.9m and 5.3m bgl. A reinforced ring beam should be constructed to span between each pile cap and support loadings from the walls of the proposed store.

Obstructions have been encountered in the ground and they should be grubbed up prior to the construction phase.

The driven piles will need to be a minimum of 3m in length. The use of driven piles should be discussed with the piling contractor and good workmanship will be required when installing the piles to ensure the assumptions in the design by calculation are met.

Preliminary design by calculation has been carried out applying due skill and care using the global factor of safety method.

Design by Calculation

The preliminary design by calculation is based on the following ground model:

- *Made Ground to 2.8m*
- *Soft very low strength Clay to 5.3m*
- *Dense gravel to 6.5m*

For a single pre-cast concrete pile 225mm in diameter and 6.5m in length end bearing in the dense Gravel, an allowable load of 180kN is provided. If greater loads are associated with the proposed development, consideration should be given to larger diameter piles or pile groups. This design should be confirmed with the preferred piling contractor. Downdrag has not been considered as part of the preliminary pile design, this will depend on the finished site levels causing ground movement relative to the pile, this should be allowed for in the final detailed design.

The type of pile material to be used should be discussed with the piling contractor to ensure lateral stability is achieved through the very soft Clay. The type of pile should also be able to withstand hard driving in the very dense Gravel.

Detailed pile design should be undertaken by an experienced piling contractor and should take into account finished levels.

An appropriate working platform should be constructed in accordance with BR470 guidance.

Design Validation

Static load testing on working piles is recommended as a minimum to validate the design for ULS and SLS conditions in accordance with Eurocode 7. Due to the size of the development and the associated loadings, static load testing is not economical and an appropriate Factor of Safety should be used in the design. The piles are likely to be driven to sett using pile driving formulae.

All piling work should be carried out in accordance with BS EN 12699:2015 'Execution of special geotechnical works. Displacement piles'.

If the ground conditions encountered during the construction phase differ significantly to the conditions encountered during the Ground Investigation, work should cease and Groundtech Consulting contacted for further advice.

During the construction phase supervision should be on a continuous basis to check the design assumptions are correct and construction conforms to design. Supervision should include inspections, Control Ground Investigations and monitoring.

Controlled Modulus Columns

An alternative option would be reinforced strip footings over Controlled Modulus Columns (CMCs) or ground improvement with Vibro Stone Columns (VSC's). Discussions should be undertaken with a specialist vibro contractor to determine their suitability.

A preliminary design resistance for ultimate limit state and serviceability limit state conditions has not been calculated, this will be the responsibility of the specialist vibro contractor and will be dictated by their design. The specialist contractor should provide fitness for purpose cover for the treated zones and depth of treatment.

The integrity of the columns are not validated to 0.35m bgl and foundations should be taken below this depth. The reinforced concrete foundation should be designed to span between the centres of adjacent stone columns.

The above recommendations are preliminary and should be confirmed with liaison with a specialist piling and ground improvement contractor.

External Works

For the external works such as roadways, granular made Ground in excess of 2m in generally in place and will mitigate the risk of settlement relative to the buildings. For areas to be grubbed up, the granular soils should be replaced to an agreed earthworks specification.

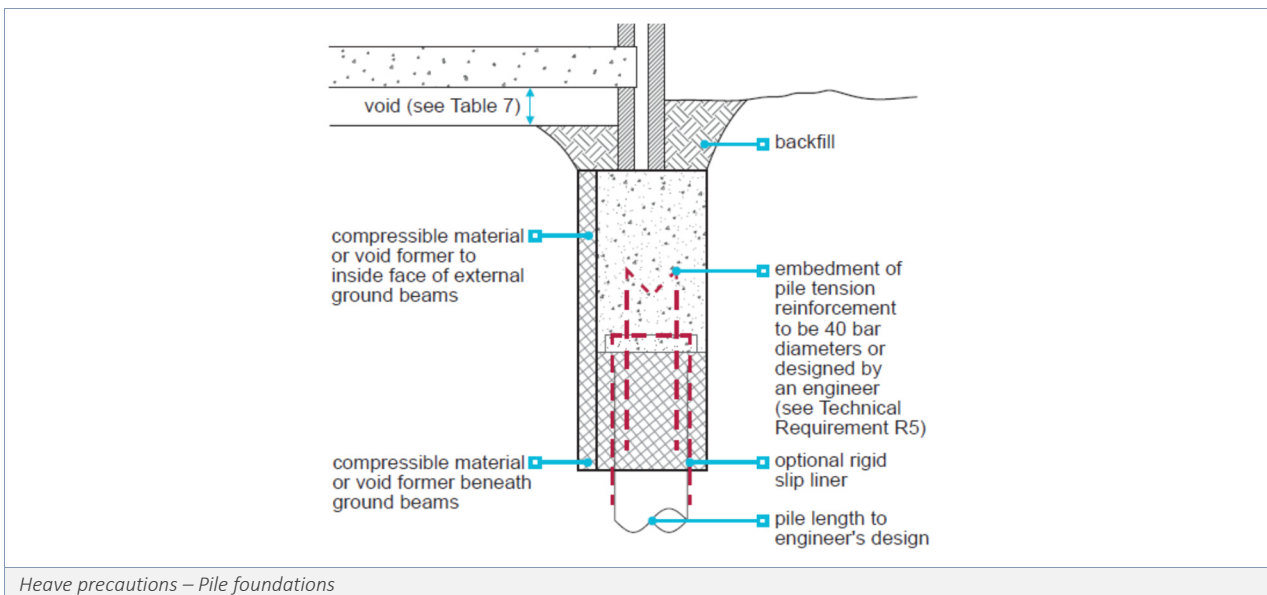
As a minimum, verification testing in the form of plate load tests using a 600mm plate should be undertaken across the site to confirm the engineered fill meets the required criteria. Plate load testing undertaken as part of the Ground Investigation are discussed in Section 8.9.

8.5 Building Near Trees

A small number of trees are situated off the eastern corner of the site, and Clay strata was encountered to between 1.6m and at least 4.1m bgl beneath this area. Foundation excavations in this area will encounter cohesive strata in the vicinity of existing, proposed or recently removed trees, foundations should be adjusted in full accordance with appropriate Guidance.

A survey of all trees and hedges on the site and within 30m of the site boundary should be undertaken to identify tree species, locations and heights. This information will be required in order to assess the effects of trees on the cohesive strata and inform a foundation schedule.

Where foundation depths due to trees already present or recently removed exceeds 1.5m there is a possibility for heave to occur on removal of the tree. Guidance states that precautions for pile foundations should be installed as detailed below.



8.6 Floor Slabs

A suspended floor slab will be required for the proposed store supported by the reinforced ring beam.

8.7 Construction

Instability of the Made Ground has been proven by the trial pitting and should be considered in the ground works method statement. Obstructions should be removed as a part of the enabling works.

Tracked high specification plant is recommended to maintain the build programme. Breaking equipment will also be required locally to penetrate obstructions identified by the Ground Investigation.

Localised dewatering of foundation excavations may be required depending on the time of year the groundworks are undertaken, perched groundwater was encountered locally in the Made Ground.

8.8 Concrete Classification

Made Ground

Water soluble sulphate testing was undertaken on thirteen samples of the Made Ground. The range of soluble sulphate (SO_4) recorded is between 14.4mg/l and 2020mg/l and associated pH values range between 7.2 and 10.0 indicating neutral to slightly alkaline conditions.

In a dataset where ten or more results are available, the mean of the highest 20% of water-soluble sulphate concentrations are taken as the characteristic value and the mean of the lowest 20% of the pH values is taken. Based on the above, the characteristic value for water soluble sulphate is 1977mg/l and the value for pH is 7.47.

Natural Strata

Water soluble sulphate testing was undertaken on four samples of natural ground. The range of soluble sulphate (SO_4) recorded is between 24.3mg/l and 558mg/l and associated pH values range between 6.4 and 9.4 indicating slightly acidic to slightly alkaline conditions.

In a dataset where less than five results are available, the highest measured sulphate concentration is taken as the characteristic value together with the lowest measured pH value. Based on the above, a characteristic value for water soluble sulphate is 558mg/l and the pH value is 6.4.

Granular soils are present beneath the site therefore the groundwater is considered to be mobile.

The results of laboratory pH and sulphate content indicate that ACEC Class AC-3 and sulphate class DS-3 conditions prevail in accordance with BRE Special Digest 1 "Concrete in aggressive ground" 2005. The specific concrete mixes (the Design Concrete Class) to be used on site will be determined by the site-specific concrete requirements in terms of the durability and structural performance. These are assessed in terms of the Structural Performance Level (SPL) and any need for Additional Protective Measures (APM) detailed in Part D of BRE Special Digest 1 with further guidance in Pt E and F.

Pyrite Potential

Additional testing was undertaken to determine if the underlying natural Clay is pyritic. Three samples of natural Clay were tested for total sulphur and total sulphate which was used to determine the total amount of oxidisable sulphides in the sample. If the amount of oxidisable sulphates is greater than 0.3% SO₄, pyrite is probably present. The total amount of oxidisable sulphates in the sample was determined to be between 0.033% and 0.26% SO₄ and it is therefore unlikely that the Clay is pyritic.

8.9 Highway Design

Plate load testing was carried out at PLT1 to PLT6 beneath the proposed car parking areas, service yard and access road, the results are presented in *Appendix 13*.

All plate load tests were undertaken at a depth of 0.2m bgl and CBR values of between 1.8% and 3.2% were recorded. The tests were undertaken at the assumed formation level of the proposed external areas, and therefore do not meet the minimum design criteria of at least 5%. The SPTs in the boreholes indicated the granular soils were medium dense to dense, therefore some reengineering is of the near surface Made Ground is required prior to pavement and road construction.

Untreated Made Ground should be assumed to have a CBR value of <2.5%, unless proven otherwise. Highways Agency document HD25 'Interim Advice Note 73/06 Revision 1' (2009) states that where a subgrade has a CBR value lower than 2.5%, it is considered unsuitable support for a pavement foundation since it would tend to deform under construction traffic, and must be improved.

Where highways are proposed in areas underlain by Made Ground, it is recommended that the Made Ground is excavated to a depth of 1.0m below subgrade level, sorted, and classified in accordance with Series 600 (Earthworks) of the Highways Agency "Specification for Highways Works". Following the above, any suitable material which can be used as part of highway construction shall be compacted in accordance with an earthwork's specification.

The soils are considered to be frost susceptible due to the fines content and highway construction should be a minimum thickness of 450mm to mitigate the risk.

8.10 Sustainable Urban Drainage System (SuDS)

Soil percolation testing has not been undertaken on the site due to the deep contaminated Made Ground and underlying impermeable natural Clay, in addition groundwater strikes were recorded directly below the Clay strata. It is understood that a new drainage system connected with the main drains will be adopted.

9.0 LAND QUALITY

9.1 Geo-Environmental Testing Results - Soils

Samples of Made Ground and natural strata have been tested for a range of relevant Contaminants of Concern. A Generic Quantitative Risk Assessment (GQRA) has been undertaken to determine the significance of the concentrations as derived through Geo-Environmental analysis.

The GQRA process comprises the comparison of the actual concentrations measured on site with Generic Assessment Criteria (GACs) for the protection of human health.

The GACs used for the assessment of soil concentrations have been derived using the CLEA model. The GACs used and their ranking of importance are listed below:

- *Soil Guideline Values (SGVs) which demonstrate minimal risk.*
- *LQM/CIEH S4ULs which use the same toxicological data as the SGVs but different exposure criteria.*
- *C4SLs which demonstrate low risk.*

In deriving the GACs for use on Brownfield sites, we have assumed a 1% Soil Organic Matter unless the results indicate otherwise.

The proposed end-use for the site is a commercial comprising the construction of a number of units which will be surrounded by areas of hardsurfacing. We have therefore undertaken the GQRA on the basis that the proposed development site falls under the Commercial land-use scenario as defined in SR3 (EA, 2009b).

The strata or sources of contamination targeted by the laboratory testing scheduled is summarised in the table below:

Strata	Number of Samples Tested	Locations
<i>MG: Sand / Gravel (Population 1)</i>	<i>12</i>	<i>TP02, TP03, TP05, TP06, TP07, TP08, TP09, TP10, TP15, WS06</i>
<i>MG: Topsoil (Population 2)</i>	<i>1</i>	<i>WS05</i>
<i>Clay (Population 3)</i>	<i>2</i>	<i>TP01, TP05</i>

Sources	Number of Samples Tested	Locations
<i>Petrol Filling Station</i>	<i>2</i>	<i>TP03, WS06</i>
<i>Substation</i>	<i>1</i>	<i>TP07</i>
<i>Underground Tank</i>	<i>1</i>	<i>TP06</i>
<i>Corporation Yard</i>	<i>1</i>	<i>WS05</i>
<i>Former Pond</i>	<i>2</i>	<i>TP02, TP15</i>

A summary of the Geo-Environmental Testing results is presented below and the GQRA Screening Values are presented in *Appendix 14*:

Contaminant	Metals			
	Range (mg/kg)	Screening Value	Exceedances	Locations
<i>Arsenic</i>	<i>7.0 - 120</i>	<i>640</i>	<i>0</i>	<i>-</i>
<i>Boron</i>	<i>0.3 - 2.8</i>	<i>240000</i>	<i>0</i>	<i>-</i>

Cadmium	<0.2 - 5.0	230	0	
Chromium	9.6 - 46	8600	0	-
Hexavalent Chromium	<4.0	49	0	-
Copper	16 - 910	68000	0	-
Lead	15 - 1400	2300	0	-
Mercury	<0.3 - 1.4	26	0	-
Nickel	10 - 57	1800	0	-
Selenium	<1.0	13000	0	-
Zinc	75 - 18000	730000	0	-

Polycyclic Aromatic Hydrocarbons (PAHs)				
Contaminant	Range (mg/kg)	Screening Value	Exceedances	Locations
Naphthalene	<0.05 - 0.61	190	0	-
Acenaphthylene	<0.05 - 1.3	83000	0	-
Acenaphthene	<0.05 - 4.1	84000	0	-
Fluorene	<0.05 - 2.9	63000	0	-
Phenanthrene	<0.05 - 19	22000	0	-
Anthracene	<0.05 - 6.1	520000	0	-
Fluoranthene	<0.05 - 46	23000	0	-
Pyrene	<0.05 - 36	54000	0	-
Benzo(a)anthracene	<0.05 - 35	170	0	-
Chrysene	<0.05 - 29	350	0	-
Benzo(b)fluoranthene	<0.05 - 21	44	0	-
Benzo(k)fluoranthene	<0.05 - 16	1200	0	-
Benzo(a)pyrene	<0.05 - 16	35	0	-
Indeno(123cd)pyrene	<0.05 - 9.5	500	0	-
Dibenzo(ah)anthracene	<0.05 - 3.9	3.6	1	TP02 @ 0.3m
Benzo(ghi)perylene	<0.05 - 9.6	3900	0	-

TPH CWG - Aliphatics				
Contaminant	Range (mg/kg)	Screening Value	Exceedances	Locations
>C5-C6	<0.001	3200	0	-
>C6-C8	<0.001	7800	0	-
>C8-C10	<0.001	2000	0	-
>C10-C12	<1.0 - 25	9700	0	-
>C12-C16	<2.0 - 230	59000	0	-
>C16-C21	<8.0 - 220	1600000	0	-
>C21-C35	<8.0 - 43	1600000	0	-
Total aliphatics C5-35	<10.0 - 510	-	-	-

TPH CWG - Aromatics				
Contaminant	Range (mg/kg)	Screening Value	Exceedances	Locations
>EC5-EC7	<0.001	26000	0	-
>EC7-EC8	<0.001	56000	0	-
>EC8-EC10	<0.001	3500	0	-
>EC10-EC12	<1.0 - 5.0	16000	0	-
>EC12-EC16	<2.0 - 160	36000	0	-

>EC16-EC21	<10 - 180	28000	0	-
>EC21-EC35	<10 - 42	28000	0	-
Total aromatics C5-35	<10 - 390	-	-	-
MTBE	<0.001	7900	-	-
Benzene	<0.001	95	-	-
Toluene	<0.001	4400	-	-
Ethylbenzene	<0.001	2800	-	-
m/p-Xylene	<0.001	3200	-	-
o-Xylene	<0.001	2600	-	-
PCBs				
Contaminant	Range (mg/kg)			
PCB Congener 28	<0.001			
PCB Congener 52	<0.001			
PCB Congener 101	<0.001			
PCB Congener 118	<0.001			
PCB Congener 138	<0.001			
PCB Congener 153	<0.001			
PCB Congener 180	<0.001			
Others				
Organic Matter	1.1 - 9.8%			
Total Cyanide	<1.0 - 58mg/kg			
Asbestos Screen				
Position	Depth (m bgl)	Result	Asbestos Type	Mass (%)
TP02	0.30	Detected	Chrysotile, Amosite & Crocidolite	0.003
TP03	1.00	Not Detected	-	-
TP05	0.50	Not Detected	-	-
TP05	3.00	Not Detected	-	-
TP06	1.60	Detected	Chrysotile	<0.001
TP07	1.20	Not Detected	-	-
TP07	0.25	Detected	Chrysotile & Amosite	0.040
TP08	1.20	Not Detected	-	-
TP08	1.60	Not Detected	-	-
TP09	0.50	Not Detected	-	-
TP10	0.60	Detected	Chrysotile	<0.001
WS05	0.10	Not Detected	-	-
WS06	0.90	Not Detected	-	-
TP15	1.00	Not Detected	-	-

Four samples of Made Ground were tested for a suite of VOCs and all were recorded at concentrations below the laboratory limits of detection.

The same four samples were tested for SVOCs, the majority of the compounds were recorded below the laboratory limits of detection with the exception of the following:

- 1,3-Dichlorobenzene – TP05 at 3.0m (below the commercial screening value of 30mg/kg)
- 1,4-Dichlorobenzene – TP05 at 3.0m (below the commercial screening value of 4400mg/kg)
- 2-Methylnaphthalene – TP08 at 1.2m
- Dibenzofuran - TP08 at 1.2m

The above compounds are generally linked to pesticides and insecticides which could be associated with the former railway land onsite and partial combustion of fuel sources.

9.2 Generic Quantitative Risk Assessment - Soils

Made Ground has been encountered beneath the entire site to a maximum depth of 2.9m bgl and generally consisted of granular soils. The site is thought to have been subject to tank removal in 2008.

Metals

There were no exceedances of heavy metal concentrations when compared to the screening values for commercial developments.

The previous Arcadis investigation found elevated concentrations of Arsenic, Lead, and Zinc, when compared to the Residential SSV. The soils tested were all derived from stockpiles on site, that are to be removed. They were not elevated above the Commercial SSV.

Speciated Polycyclic Aromatic Hydrocarbons

A single minor elevated level of Dibenzo(ah)anthracene was detected in TP02 at a depth of 0.2m bgl. This is likely derived from the incomplete combustion of fuels in engines through the coal coking process used in the steel production process, or associated with the railway that ran through the site.

Twenty-two exceedances were identified by the Quantum investigation when compared to the screening values for residential with plant uptake. There was also an exceedance in one sample when compared to the screening value for commercial developments.

The previous Arcadis investigation recorded elevated speciated PAHs (Naphthalene, Benzo(b)fluoranthene, Benzo(a)pyrene, and Dibenzo(a,h)anthracene) when compared to the residential with plant uptake SSV. When compared to the Commercial SSV, there were no recorded exceedances.

Total Petroleum Hydrocarbons (CWG)

There were no exceedances in Total Petrol Hydrocarbons speciations when compared to the screening values for commercial developments.

The Quantum investigation identified a single exceedance of the SSV for benzene out of 46 samples analysed in the residential area. There were two exceedances of the SSV in two samples of natural soils for TPH Aliphatic C8-C10 and TPH Aromatic C8-C10. A single exceedance in natural soil for TPH Aromatic C12-C16 was identified in the location of a suspected former tar tank. Further exceedances were identified in two samples of Made Ground for TPH Aromatic C16-C35 and TPH Aromatic C21-C35 in the western side of the site.

The Arcadis investigation identified two exceedances in Benzene and TPH C16-C21 when compared to residential screening values. Both of these samples were obtained in the vicinity of the former Petrol Filling Station.

It is understood that all known Underground Storage Tanks have been removed from site and any contamination encountered in this area is likely to be residual. The perched groundwater encountered within the Made Ground was highly localised and therefore the residual hydrocarbon contamination is also likely to be localised. The coverage by the previous investigations by Quantum and Arcadis supports this observation.

When compared to the commercial screening values there have been no recorded exceedances from the previous investigations.

VOCs and SVOCs

Of the six samples screened for elevated VOCs and SVOCs, there were no exceedances when compared to the commercial screening values.

There was a combined number of nine exceedances between the Quantum and subsequent Arcadis investigations when compared to the residential with plant uptake screening values. However, with the current development plans, there were no exceedances recorded when compared to the less stringent commercial screening values.

Polychlorinated Biphenyls (PCBs)

No elevated concentrations of Polychlorinated Biphenyls (PCBs) were recorded from sample tested in close proximity to the electricity substation. The substation is situated on a concrete slab, therefore reducing the chance of impactation of the underlying soils.

Asbestos

A mixture of Chrysotile, Amosite and Crocidolite asbestos fibres were detected in TP02, TP06, TP07 and TP10 within the granular Made Ground soils at concentrations of between <0.001 and 0.04 mass %. Spatially, the asbestos was identified in the central, southern and north western areas of the site.

The previous investigations undertaken by Quantum and Arcadis found widespread asbestos contamination across the site and within the stockpiled materials. Out of a combined total of 64 samples that were screened, 41 were found to contain asbestos.

Stockpiles

Six exceedances in speciated PAH testing from samples taken from waste mounds when assessed against residential end use. However, when compared to the commercial SSV's there were no exceedances. Two samples obtained from the stockpiles on site were elevated in metals when assessed against the residential end use SSV. However, when compared to the commercial SSV's there were no exceedances.

The stockpiles are suitable to be reused on the site if placed at depth under an MMP due to the asbestos content. If volume calculations identify a surplus the stockpiles should be removed to a suitably licensed waste disposal facility.

9.3 Groundwater Testing

Four samples of groundwater were taken from CP01 to CP04 and were tested for a similar suite of contaminants as the soils. The results were compared with reference to a selection of guidance documents as detailed at the rear of this report.

The implementation of the Water Framework Directive (WFD) is to protect and enhance the quality of groundwater and groundwater-dependent ecosystems. The objective of the WFD requires all groundwater

bodies (GWBs) are of 'good' status in terms of water quality. This status is based on thresholds for the chemical constituents of groundwater and their impact on ecosystems. Preventing pollution is by far the most sustainable and cost-effective way of maintaining good groundwater quality. The EA are committed to the 'prevent or limit' approach reflected in EU and domestic legislation.

Priority is under the Water Framework Directive to protect water supplies intended for human consumption and ensure protection of groundwater quality that supplies dependent ecosystems. After first guidance in 1992 the following significant guidance has been introduced:

- *Water Framework Directive (2000/60/EC) and the Water Act 2003.*
- *The State of Groundwater in England and Wales 2006.*
- *Second phase of the environmental permitting regime in 2010 replacing the Groundwater Regulations (1999, 2009).*
- *Groundwater Daughter Directive.*

Pollutants can be divided into those that break down easily (degradable pollutants) and those that do not (non-degradable pollutants). The Water Framework Directive introduced the concept of 'hazardous substances' and 'non-hazardous pollutants', which replaced the previous List I and List II of substances considered to pose the greatest threat to the environment.

- *Hazardous substances are the most toxic and must be prevented from entering groundwater. Substances in this list may be disposed of to the ground, under a permit, but must not reach groundwater. They include pesticides, sheep dip, solvents, hydrocarbons, mercury, cadmium and cyanide.*
- *Non-hazardous pollutants are less dangerous and can be discharged to groundwater under a permit but must not cause pollution. Examples include sewage, trade effluent and most wastes. Non-hazardous pollutants include any substance capable of causing pollution and the list is much wider than the previous List II of substances. For example, nitrate is now a non-hazardous pollutant whereas before it was not a List II substance.*

Polluting substances in groundwater can occur as a gas (gaseous phase) or dissolved in water (aqueous phase), or as a non-aqueous phase liquid (NAPL). Some pollutants include substances that dissolve readily in water. These are said to have high solubility; an example is MTBE. Substances that have low solubility (such as oil) are referred to as non-aqueous phase liquids (NAPLs). NAPLs behave differently in groundwater depending on whether they are lighter or heavier than water. Light non-aqueous phase liquids (LNAPLs) may float on the water table whereas dense non-aqueous phase liquids (DNAPLs) may sink through the aquifer until they reach an impermeable layer. They may then generate plumes of contamination. In both cases, the slowly dissolving pollutant may form a plume of dissolved contamination which moves with the groundwater flow.

A table summarising the groundwater testing results is presented below:

Contaminant	Metals			
	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
Arsenic	<0.15 – 2.86	50	0	-
Boron	110 - 310	5	0	-
Cadmium	<0.02 – 0.07	0.08-0.25	0	-
Chromium	2.9 – 5.2	4.7	1	CP02

Hexavalent Chromium	<5.0	3.4	0	-
Copper	2.1 – 3.7	10 – 28	0	-
Cyanide	<10	1	0	-
Lead	<0.2 – 1.0	1.2	0	-
Mercury	<0.05	0.07	0	-
Nickel	3.0 – 5.5	20	0	-
Selenium	<0.6 – 1.1	10*	0	-
Zinc	7.8 – 22.0	75 – 125	0	-
Polycyclic Aromatic Hydrocarbons (PAHs)				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
Benzo(a)pyrene	<0.01	0.00017	0	-
Indeno(123cd)pyrene	<0.01	0.00017	0	-
Benzo(ghi)perylene	<0.01	0.00017	0	-
Benzo(b)fluoranthene	<0.01	0.00017	0	-
Benzo(b)fluoranthene	<0.01	0.00017	0	-
TPH CWG – Aliphatics				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
>C5-C6	<1.0	15,000	0	-
>C6-C8	<1.0	15,000	0	-
>C8-C10	<1.0	300	0	-
>C10-C12	<10.0	300	0	-
>C12-C16	<10.0	300	0	-
>C16-C35	<10.0	-	0	-
Total aliphatics C5-35	<10.0	-	0	-
TPH CWG - Aromatics				
Contaminant	Range (ug/l)	EQS (ug/l)	Exceedances	Locations
>C5-EC7	<1.0	10	0	-
>EC7-EC8	<1.0	74	0	-
>EC8-EC10	<1.0	300	0	-
>EC10-EC12	<10	90	0	-
>EC12-EC16	<10	90	0	-
>EC16-EC21	<10	90	0	-
>EC21-EC35	<10	90	0	-
Total aromatics C5-35	<10	-	0	-
Total aliphatics and aromatics(C5-35)	<10	-	0	-
MTBE	<1.0	15	0	-
Benzene	<1.0	10	0	-
Toluene	<1.0	74	0	-
Ethylbenzene	<1.0	300	0	-
m/p-Xylene	<1.0	30	0	-
o-Xylene	<1.0	30	0	-
Others				

*Total Hardness**217 – 558mg/l*

All of the VOCs tested for were recorded at concentrations below the laboratory limits of detection.

9.4 Generic Quantitative Risk Assessment - Groundwater

Controlled Waters Setting

Strata underlying the site consists of Made Ground over cohesive Estuarine Alluvium Deposits to depths of between 3.9m and 5.3m bgl where very dense Gravel was present. The solid geology is the South Wales Middle Coal Measures Formation, however it was not encountered during the Ground Investigation.

Perched groundwater was encountered in TP06 and TP07 at depths of 1.0m and 1.3m respectively within the Made Ground. Elsewhere across the site, groundwater strikes were identified in the natural ground at depths of between 2.4m and 5.3m bgl. Groundwater was encountered within the natural granular deposits at depths between 2.8m and 5.3m bgl. The likely flow direction of groundwater will be towards the River Afan which is circa 86m to the south.

The Estuarine Alluvium Deposits are classified as a Secondary Undifferentiated Aquifer and the solid geology is classified as a Secondary A Aquifer. There are no groundwater or potable water abstraction licenses within 2000m of site and the site is not located within 500m of a groundwater Source Protection Zone.

The River Afan is located approximately 86m to the south of the site and is therefore the receptor considered to be at risk. The contaminants tested for have been compared to EQS screening levels given the close proximity of the watercourse.

Heavy Metals

The groundwater laboratory testing results indicate that there was one exceedance in Chromium from groundwater obtained from CP02.

Very slightly elevated concentrations of dissolved Chromium were recorded within CP02 when compared to the EQS screening values, with a maximum concentration of 5.2ug/l. However, the more toxic Hexavalent Chromium (IV) was recorded at the Limit of Laboratory Detection (LOD) in all samples that were tested.

Copper, nickel and zinc concentrations were all below respective EQS screening values using the hardness values.

Polycyclic Aromatic Hydrocarbons (PAH)

There were no exceedances in any of the samples tested for speciated PAHs.

Total Petroleum Hydrocarbons (TPH CWG)

There were no exceedances in any of the samples tested for TPH CWG.

Although the dense Sand and Gravel are water bearing, they are overlain by impermeable Clay that has acted as an aquitard, and the laboratory testing has confirmed the confined aquifer has not been impacted by overlying Made Ground soils.

The perched water within the Made Ground soils is not considered to be a concern as it is highly localised and not in continuity with the underlying Secondary Undifferentiated Aquifer or River Afan. The proposed new drainage system will also provide further betterment.

Both the superficial Secondary Undifferentiated Aquifer and the bedrock Secondary A Aquifer are not sensitive resources. However, Hazardous substances should be prevented from entering groundwater in accordance with the Water Framework Directive. Therefore, free phase hydrocarbons should be removed as a minimum where encountered.

9.5 Permanent Ground Gases

One gas monitoring visit has been carried out to date on 18th November 2021. Monitoring wells were installed to assess whether gas protective measures are required for the proposed development.

Methane was detected at a maximum concentration of 4.0% v/v within WS06 only which is in the PFS area, no other methane was detected. A maximum carbon dioxide concentration of 4.2% v/v was recorded in WS02 with associated depleted oxygen levels (minimum of 4.3% v/v).

No positive gas flow rates were recorded.

The atmospheric pressure during the visit was 1027mb during a period of rising barometric pressure.

Groundwater was encountered within the standpipes at depths between 1.84m and 3.02m bgl. No groundwater was present within WS03.

Characterisation of the Gas Screening Value (GSV)

Based upon the results recorded, in accordance with CIRIA Report C665, the risk to the site from ground gases has been assessed by converting the results to gas screening values (GSV's) calculated by multiplying the typical maximum gas concentrations with the recorded maximum with the recorded maximum positive flow rates. In addition, individual "hazardous gas flow rates" (Qhg) have been derived for each monitoring point.

$$GSV \text{ (l/hr)} = \text{max borehole flow rate (l/hr)} \times \text{max gas concentration (\%)}$$

For this assessment, the maximum recorded concentration of methane of 4.0% v/v and carbon dioxide of 4.2% v/v has been used to calculate the GSV together with a gas flow rate of 0.1 l/hr (the limit of detection of the gas analyser). This is the worst-case scenario at this stage, and the scenario may be altered on completion of the monitoring.

$$\text{Carbon Dioxide GSV} = 0.042 \text{ (4.2\%)} \times 0.1 = 0.0042 \text{ l/hr}$$

$$\text{Methane GSV} = 0.04 \text{ (4.0\%)} \times 0.1 = 0.004 \text{ l/hr}$$

Assessment

When considering the initial results, in accordance with CIRIA C665 (Section A Development and Table 8.5 – Modified Wilson and Card Classification) the GSV values for methane correspond with CS1 criteria (GSV less than 0.07l/hr) and gas protection measures are not required based on the interim results. However, methane has been recorded at 4.0% v/v in WS06 which is situated in the footprint of the former Petrol Filling Station, and further consideration may need to be given relating to remedial action, or installing a vapour resistant membrane in this area.

Characteristic Situation 1

In order to assess the ground gas regime beneath the site and the need to incorporate ground gas precautions, guidance was taken from CIRIA C665 'Assessing risks posed by hazardous ground gases to buildings'. Based on the site being developed as a commercial retail store, the Wilson and Card method has been used to carry out the assessment.

The proposed commercial development is classified as a Building Type C in accordance with BS 8485:2015 and the site falls in CS1 in accordance with Table 2 of the above guidance.

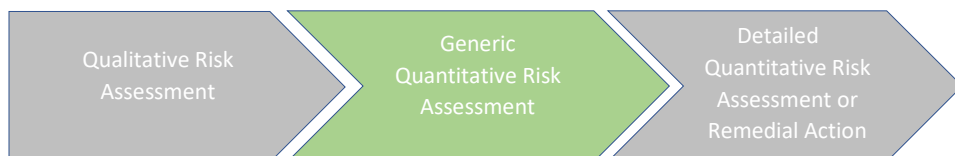
At present, gas protection measures are not deemed necessary within the proposed structures at the site however, this will be confirmed on completion of the monitoring.

The site is not in an area requiring radon precautions. Vapour protection measures were not considered to be required based upon the PID screening results. However, based on observations and findings from the previous investigations, there are likely to be local pockets of free phase within shallow Made Ground soils, which may release harmful vapours, a vapour resistant membrane or remedial action is recommended in the vicinity of the PFS as demonstrated on *GRO-21252-P05*.

9.6 Revised Pollution Linkage Assessment

The pollution linkage assessment has been revised based on the Ground Investigation and testing to identify any realistic pollution linkages in order to quantify the risks to human health and controlled waters. An Illustrative CSM is presented on *GRO-21015-P08*.

Human Health Pollution Linkage Assessment



- The table below represents the second stage in the land quality risk assessment process - **the Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					Generic Quantitative Risk Assessment	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	Rationale and Action
PL1	Contaminated Soils	Ingestion of soil and dust. Dermal contact with soil.	Unlikely	Medium	Low	<i>Pollution Linkage 1 refers to proposed site users encountering contaminated soils on the site.</i> <i>Made Ground was encountered to a maximum proven depth of 2.9m bgl. Evidence of contamination was noted locally across the site associated with the historical industrial uses, however laboratory analysis has indicated that the only minor exceedance when compared to the screening values for a commercial development relates to Dibenzo(ah)anthracene within TP02 at a depth of 0.3m bgl. No other elevated CoC were recorded including from the previous investigation when compared to commercial screening levels.</i> <i>Asbestos was detected in four samples of Made Ground at depths between 0.25m and 1.6m bgl. In two instances, TP06 and TP10 at 1.6m and 0.6m bgl the asbestos was at trace concentrations. Within TP02 and TP07 at depths of 0.3m and 0.25m, asbestos was detected at concentrations between 0.003 mass % and 0.040 mass %. The JIWG assessment indicates that the combined hazard, exposure and receptor ranking is</i>

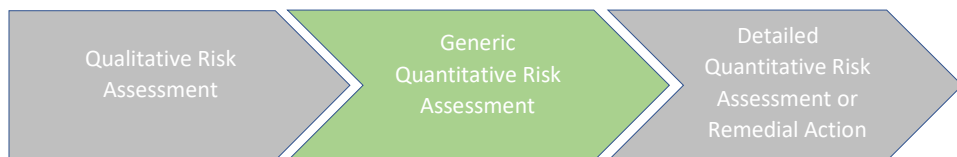
Conceptual Site Model					Generic Quantitative Risk Assessment	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	Rationale and Action
						medium, however the Made Ground soils will be beneath hardsurfacing breaking the pathway. Asbestos was more widespread in the previous investigations. As the proposed development is to be predominantly covered with hardsurfacing, no plausible pollution linkage is considered to exist. In areas where soft landscaping will be present, a cover system will be required with a hard dig layer to prevent the disturbance of contaminated soils.
PL2	Contaminated Soils	Inhalation of vapour.	Unlikely	Medium to Severe	Moderate	This pollution linkage refers to volatile vapours migrating into confined spaces within the proposed development. Gross hydrocarbon contamination has not been identified beneath the site and generally the results of PID were low. In addition, the geo-environmental testing has not recorded any hydrocarbons in the volatile range. Based on the results of this investigation, a viable pollution linkage has not been identified. However, volatile contamination was identified by the previous investigation. A vapour resistant membrane or remedial action is recommended in the vicinity of the former PFS and will be discussed in the final gas assessment.

Conceptual Site Model					Generic Quantitative Risk Assessment	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	Rationale and Action
PL3	Contaminated Soils	Inhalation of soil dust by adjacent site users.	Unlikely	Medium	Low	<i>Pollution Linkage 3 relates to contamination on the subject site affecting adjacent site users. Significant mobile contamination has not been detected by the Ground Investigation and the subject site is indicative of the wider area. Therefore, a realistic pollution is not considered to exist.</i>
PL4	Contaminated Soils	Attacking potable water supply pipe.	Low Likelihood	Medium	Moderate	<i>This pollution linkage 4 refers to the possible contaminants permeating potable water pipes and consumption by the future site end users of the tainted water supply. Made Ground has been identified to a maximum depth of 2.9m bgl. Evidence of organic contamination has been identified.</i> <i>New potable water supply pipes will be included as part of the development and a local water company risk assessment should be carried out prior to construction to advise on the level of protection required for the potable water supply. The pipes are likely to be upgraded from standard PE.</i>
PL5	Ground Gas	Migration and accumulation of ground gas in internal spaces.	Unlikely to Low Likelihood	Medium to Severe	Moderate to Low	<i>Deep Made Ground is present beneath much of the site. The initial gas monitoring results indicate that methane has been detected within one of the standpipes at a maximum concentration of 4.0% v/v and the maximum carbon dioxide concentration is 4.2% v/v. No positive gas flow rates were recorded in any of the monitoring wells.</i> <i>The initial GSV places the site in CS1 and no gas protective measures are required as the methane in WS06 is due to hydrocarbons in the soils. The level of precautions will be confirmed on completion of the gas monitoring.</i>



Conceptual Site Model					Generic Quantitative Risk Assessment	
PL	Potential Source	Pollution Linkage	Likelihood	Consequence/ Severity	Risk Rating	Rationale and Action
						The site is not in an area requiring radon precautions.

Controlled Waters Pollution Linkage Assessment



- The table below represents the second stage in the land quality risk assessment process – **Generic Quantitative Risk Assessment**.
- In order for a development site to be deemed 'suitable for use' the level of risk needs to be reduced to an acceptable level - low to negligible risk. The purpose of each stage of risk assessment is to establish if there is a requirement for additional stages of assessment in order to have sufficient confidence to support a risk characterisation or remedial action.

Conceptual Site Model					Generic Quantitative Risk Assessment	
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	Rationale
PL6	Contaminated Soils	Impaction of groundwater from soil contamination (diffuse and point). Impaction of groundwater from groundwater plume.	Unlikely	Medium	Low	Pollution Linkage 6 refers to the impaction of the Secondary A Aquifer (bedrock) beneath the site. The perched groundwater was highly localised and due to the proposed new drainage system is not considered to be a risk, there is also no pathway to the underlying confined aquifer. If free phase hydrocarbons are observed during the enabling and construction phase, it should be removed as a minimum. Water bearing Sand and Gravel was encountered beneath the Estuarine Clay Deposits. Groundwater sampling and testing confirmed that there was one slight exceedance in Chromium, from four samples that were tested, when compared to the EQS levels. This is likely to be at least somewhat impaired by the numerous historical industrial land uses in the surrounding area. The site is not within a groundwater SPZ and there are no potable water abstractions within 2000m. Therefore, the groundwater is not considered to be a sensitive resource.

Conceptual Site Model					Generic Quantitative Risk Assessment	
PL	Potential source	Pollution linkage	Likelihood	Severity	Level of risk	Rationale
						<i>A plausible pollution linkage to groundwater is not considered to exist.</i>
PL7	Contaminated Soils	Migration of soil and groundwater contamination impacting surface waters.	Unlikely	Medium	Low	<i>Pollution Linkage 7 refers to the impaction of River Afan circa 86m south of the site from contaminated soils and groundwater.</i> <i>Significant mobile contamination has not been identified during the Ground Investigation and through the testing of soils and groundwater.</i> <i>Contamination from the previous investigations was found to be predominantly perched and immobile within the Made Ground soils.</i> <i>No migration pathway has been identified and a realistic pollution linkage does not exist.</i>

9.7 Outline Remedial Strategy

Soils

A single minor elevated concentration of dibenzo(ah)anthracene has been recorded within the Made Ground samples tested. Asbestos was detected in four samples of Made Ground at a maximum concentration of 0.04mass %. The previous investigations undertaken by Quantum and Arcadis found asbestos to be prevalent across the site and within the stockpiled materials. The site will predominantly be covered with hard surfacing which will effectively act as a cover system.

A mixture of Chrysotile, Amosite and Crocidolite asbestos fibres were detected in TP02, TP06, TP07 and TP10 within the granular Made Ground soils at concentrations of between <0.001 and 0.04 mass %. Spatially, the asbestos was identified in the central, southern and north western areas of the site.

Where any soft landscaping is to be present, a cover system of 600mm of suitably clean subsoil and topsoil including a contamination demarcation barrier or a 100mm hard dig layer will be required. The imported soils used within the cover system should be tested to ensure that they are suitably clean for use. In addition, the thickness of the cover system should be validated.

It is understood that the waste mounds and stockpiles are to be removed off site. Where possible it would cost effective to reuse and retain as much material on site as possible, and this may require further testing in order to better characterise each individual mound and ensure that the maximum amount of material is retained and reused.

Controlled Waters

The results from the groundwater testing indicate that the main groundwater body beneath the site has not been impacted and remedial action is not required. A piling risk assessment is required to confirm no preferential pathway is created.

Perched groundwater is localised and if free phase is observed during enabling and groundworks, this should be removed offsite to an appropriately licenced waste disposal features.

Ground Gas and Vapours

The preliminary results indicate that gas precautions relating to carbon dioxide or methane within the development will not be necessary. However, this will be confirmed on completion of the monitoring. In addition, radon protective measures not required.

Based upon the information available from the previous investigations and the potential for vapour emissions within isolated pockets of hydrocarbon free phase in the shallow soils, a vapour resistant mebrane in the vicinity of the former PFS and USTs should be installed or remedial action undertaken such as windrows.

Watching Brief and Regulatory Approval

During the enabling works, a watching brief should be maintained for previously unidentified visual or olfactory contamination. If identified, work should cease in that area and Groundtech Consulting contacted for advice.

It is understood that Underground Storage Tanks have been removed. This should be confirmed during the enabling works, and a watching brief should be maintained to assess the presence of any unidentified below ground tanks.

The Made Ground on site will require turning over, and all obstructions will require removing as part of the enabling works.

Potable Water Supply Pipes

A local water company risk assessment is required to determine the potable water pipe material, photographic validation of the installation will be required.

Regulatory Liaison

Regulatory approval should be obtained prior to the development to discharge pre-commencement planning condition and prevent delays during the construction phase.

9.8 Asbestos in Soils

Asbestos fibres were detected within four samples of the granular Made Ground soils that were screened from beneath the site to a maximum concentration of 0.04 mass %. From the previous investigations, asbestos was detected within 41 out of 64 samples that were screened. Nine of the samples with asbestos were from stockpiles that are to be removed off site.

Based on the Joint Industry Working Group (JIWG) assessment, the work at the site will be non-licensed however, the following will be required during construction work. It is the responsibility of the contractor to put control measures in place to their satisfaction:

- *RPE – EN140 with P3 filter half mask*
- *Localised mechanical dust suppression*
- *Localised and enhanced personal decontamination facilities*

Where possible, it is advised that any Made Ground soils containing asbestos are left in the ground undisturbed. Where soils will be disturbed as part of the ground works, in accordance with the Joint Industry Working Group (JIWG) decision support tool for CAR2012 work categories, the combined hazard and exposure ranking is medium.

The JIWG assessment tables are in *Appendix 15*. An asbestos management plan is recommended as part of the enabling works.

9.9 Health and Safety - Construction and Ground Workers

During the reclamation and construction phases of the site development it will be necessary to protect the health and safety of site personnel. The risk to construction and ground workers is assessed in the table below:

PL Ref	Potential Source	Pollution Linkage	Likelihood	Severity	Level of Risk
PL8	Made Ground	Ingestion, direct contact, inhalation of dusts.	Low Likelihood	Medium	Moderate to Low
PL8	Asbestos	Ingestion, direct contact, inhalation of dusts.	Likely	Medium	Moderate

Localised speciated PAHs, asbestos and evidence of hydrocarbon contamination has been noted. The contractor should communicate the risks with site personnel through a site induction and via information on noticeboards. The contractor should also implement control measures to their satisfaction.

General guidance on these matters is given in the Health and Safety Executive (HSE) document “Protection of Workers and the General Public during the Redevelopment of Contaminated Land”. In summary, the following measures are suggested to provide a minimum level of protection:

- *All ground workers should be issued with the relevant protective clothing, footwear and gloves. These protective items should not be removed from the site and personnel should be instructed as to why and how they are to be used.*
- *Hand-washing and boot-washing facilities should be provided.*
- *Care should be taken to minimise the potential for off-site migration of contamination by the provision of dust suppression control and wheel cleaning equipment during the construction works.*
- *Good practices relating to personal hygiene should be adopted on the site.*
- *The contractor shall satisfy the Health and Safety Executive with regard to any other matters concerning the health, safety and welfare of persons on the site.*

9.10 Waste Classification by Assessment

We have reviewed the testing results and inputted them into the HazWasteOnline model which allows users to code and classify waste as defined in the EWC (European Waste Catalogue 2002) based on EC Regulation 1272/2008 on the Classification, labelling and packaging of substances and mixtures (CLP) and latest Environment Agency guidance (WM3 “Guidance on the classification and assessment of waste (1st edition 2015)-Technical Guidance”).

This is a useful tool as waste producers have the legal responsibility to classify any waste they produce.

Fifteen samples were tested to assess whether they contained any contaminants in the hazardous range when screened against assessment criteria within WM3. The results are in the Waste Classification Report presented in *Appendix 16*.

Sample Name	Depth (m bgl)	Classification Result	Stratum	Hazardous Property
TP01	2.50	Non-Hazardous	Clay	
TP02	0.30	Hazardous	MG Gravel	Zinc - Carcinogenic
TP03	1.00	Hazardous	MG Gravel	Zinc and Lead – Carcinogenic and Ecotoxic
TP05	0.50	Hazardous	MG Gravelly sand	Zinc – Carcinogenic and Ecotoxic
TP05	3.00	Non-Hazardous	Clay	
TP06	1.60	Hazardous	MG Gravel	Zinc – Carcinogenic and Ecotoxic
TP07	1.20	Non-Hazardous	MG Sand	
TP07	0.25	Hazardous	MG Gravelly sand	Zinc – Carcinogenic
TP08	1.20	Non-Hazardous	MG Gravel	
TP08	1.60	Non-Hazardous	MG Sand	
TP09	0.50	Non-Hazardous	MG Sand	
TP10	0.60	Hazardous	MG Gravel	Zinc – Carcinogenic
TP15	1.00	Hazardous	MG Gravelly sand	Zinc – Carcinogenic

Sample Name	Depth (m bgl)	Classification Result	Stratum	Hazardous Property
WS05	0.10	<i>Hazardous</i>	MG Topsoil	Zinc – Carcinogenic and Ecotoxic
WS06	0.90	<i>Hazardous</i>	MG Gravelly sand	Zinc – Carcinogenic

Based on the HazWasteOnline assessment tool, nine of the fifteen samples have been classified as being *Hazardous* for waste disposal purposes and relate to all the Made Ground Populations encountered. The hazardous properties are associated with the concentrations of lead and zinc within the Made Ground, this will be linked to the historic use as a tin plating works.

The Made Ground is generally granular in nature and will be difficult to segregate therefore, it is assumed that all of the Made Ground would be classified as being *Hazardous* for waste disposal purposes. Where possible, it is recommended that the Made Ground is kept onsite beneath areas of hardsurfacing.

Asbestos was detected within four samples (TP02, TP06, TP08 and TP09). The concentrations from all previous investigations were found to be below the Hazardous threshold of 0.1 mass %.

Previous testing undertaken by Arcadis on the waste mounds and stockpiles indicate that of 6 samples tested, two are designated as 'Hazardous' due to heavy metal concentrations and TPH concentrations. It is recommended that further testing is undertaken on the mounds to obtain a better resolution of spatial contamination and characteristics prior to either reuse and retention, or disposal.

9.11 Waste Acceptance Criteria (WAC) Results

The Landfill Directive (Directive 1999/31/EC on the landfilling of waste) led to the establishment of a methodology for classifying wastes. Wastes can only be accepted at a landfill if they meet the relevant Waste Acceptance Criteria (WAC) for that type of landfill. There are three different WAC, these are for:

- *Inert waste*
- *Non-hazardous waste*
- *Hazardous waste*

Wastes should first be classified based on their total concentrations as detailed in the previous section. WAC testing is then required if the end disposal route is a landfill. Solid and eluate WAC analysis was undertaken on three samples of Made Ground, the findings of which are presented in the table below.

Reference	Depth (m)	Strata Type	Classification	WAC Analysis	Landfill Disposal
TP07	1.20	MG Sand	<i>Non-Hazardous</i>	<i>Inert</i>	<i>Inert</i>
TP08	1.20	MG Gravel	<i>Non-Hazardous</i>	<i>Inert</i>	<i>Inert</i>
TP10	0.60	MG Gravel	<i>Hazardous</i>	<i>Stable Non-reactive</i>	<i>Hazardous</i>

The results above further confirm segregation of the Made Ground soils will be difficult and they would need to go off as *Hazardous* waste and should be left in-situ where possible.

The possibility of automatic inert classification of the natural soils should be explored in accordance with Section 4.3 of the EA guidance document. The Council Decision includes a list of wastes in Section 2.1.1 of the document that are assumed to be inert and therefore acceptable at a landfill for inert waste without testing, this is the case if:

- *They are single stream waste of a single waste type (although different waste types from the list may be accepted together if they are from a single source)*
and
- *There is no suspicion of material or substances such as metals, asbestos, plastics, chemicals, etc to an extent which increases the risk associated with the waste sufficiently to justify contamination and they do not contain other their disposal in other classes of landfill.*

If any organic contaminated material is encountered during the construction phase, it is possible that this may be classified as *Hazardous* and testing should be undertaken at that time.

Materials should be segregated and where necessary sufficient time is allowed to further classify the material properly, including discussion with landfill sites and waste transfer stations to find the best disposal route. It is recommended that where possible that the soils could be recycled at a suitable local waste treatment plant or transfer station rather than a landfill disposal route.

The reuse of soils on the site this should be done in accordance with the CL:AIRE “Development Industry Code of Practice for the Definition of Waste” (CL:AIRE CoP). Any re-use scheme should be designed to minimise disposal costs.

After a cut and fill balance plan/volume calculation has been carried out, a U1 and T5 exemption could be registered. This will allow the use of the following soils without a waste permit or under Dow CoP MMP:

- *1,000 tonnes (c.600m³) of non-hazardous soil*
- *5,000 tonnes (c.3,000m³) of natural sand and gravels.*
- *50,000 tonnes (c.25,000m³) of bituminous material to be used in roadways.*
- *5,000 tonnes (c.3,000m³) of crushed concrete / stone.*

10.0 FINAL APPRAISAL

10.1 Land Quality

The site has historically been a tin plating works, railway terminus, engineering works, petrol filling station and a mortuary and has included features such as a well, tanks, chimneys and a substation.

Made Ground has been encountered across the site to a maximum depth of 2.9m bgl and predominantly comprised Sand and Gravel. Minor constituents included ash, slag and coal.

The site has relatively low levels of hydrocarbon contamination given the previous usage as a petrol station, and generally low levels of contamination considering the sites historical land usage. There was one exceedance when compared to commercial screening values. The exceedance is relating to benzo(a)anthracene in a sample obtained from TP03 at a depth of 0.3m bgl. No other elevated Contaminants of Concern were recorded based on the proposed commercial end use. Asbestos was detected in four samples of Made Ground at a maximum concentration of 0.04 mass %. In the previous investigations asbestos was found within the Made Ground soils to a maximum concentration of 0.075 mass % and a maximum concentration of 0.018 mass % within the stockpiled material.

The site is to be predominantly covered with hardsurfacing which will break the pathway from site end users to potentially contaminated soils. The risk to human health is considered to be *Low*.

Elevated levels of dissolved Chromium were recorded within one sample of groundwater within CP02 when compared to the EQS screening values, with a maximum concentration of 5.2ug/l. The concentrations of the more toxic hexavalent chromium were at the limit of laboratory detection, and there were no further exceedances when compared to the EQS screening values. The risk to controlled water is *Low*.

Preliminary gas monitoring indicates that the site is within CS1 and gas protection measures will not be required in the proposed development. The level of protection will be confirmed on completion of the gas monitoring. The site lies in an area not requiring radon protective measures. However, if remedial action is not undertaken in the PFS area, vapour membranes should be installed within buildings in this area due to the potential for residual pockets of free phase hydrocarbon within the shallow soils.

Nine samples of the granular Made Ground soils have been classified as *Hazardous* for waste disposal purposes. This material is present across the majority of the site, and it will be difficult to segregate, therefore all of the granular Made Ground should be assumed to be *Hazardous*. It is recommended that where possible, these materials are retained on the site under an MMP and covered with hardsurfacing.

10.2 Ground Engineering

The most suitable foundation solution is considered to be driven piles transferring loads to the underlying very dense Gravel which were encountered at depths between 3.9m and 5.3m bgl.

An alternative foundation solution is the use of Controlled Modulus Columns (CMC's) this should be confirmed with a specialist contractor.

Due to the depth of Made Ground, the contamination beneath the site and the underlying natural Clay, the use of a Sustainable Urban Drainage System is not considered feasible at this site.

10.3 Required Further Work

The following further work is considered necessary to progress the site to construction phase:

Completion of gas monitoring programme and issue gas assessment.

Design of Remedial Specification.

Detailed foundation design.

Confirmation of the recommendations made within this report with the Regulators.

11.0 RELEVANT INDUSTRY REFERENCES

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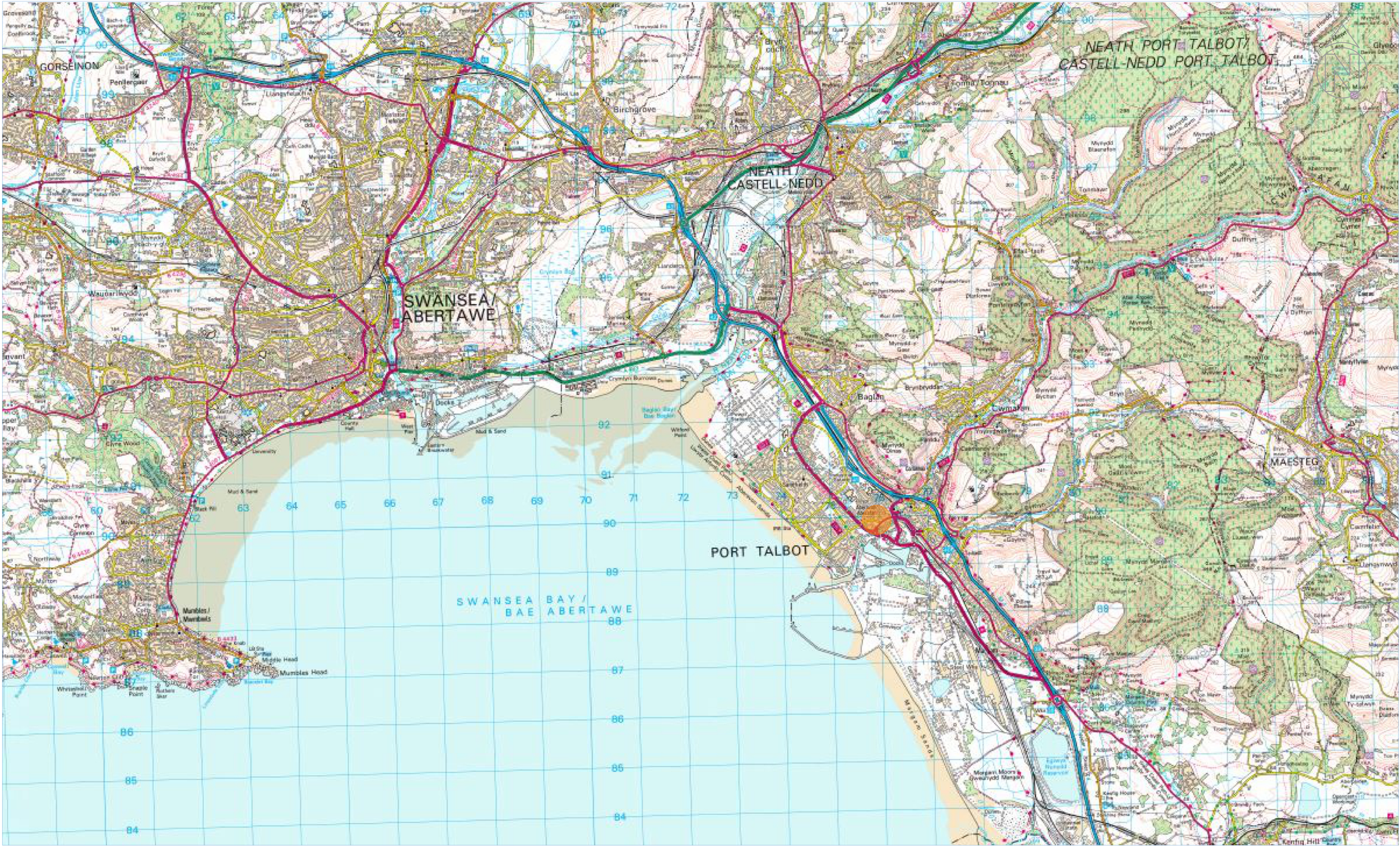
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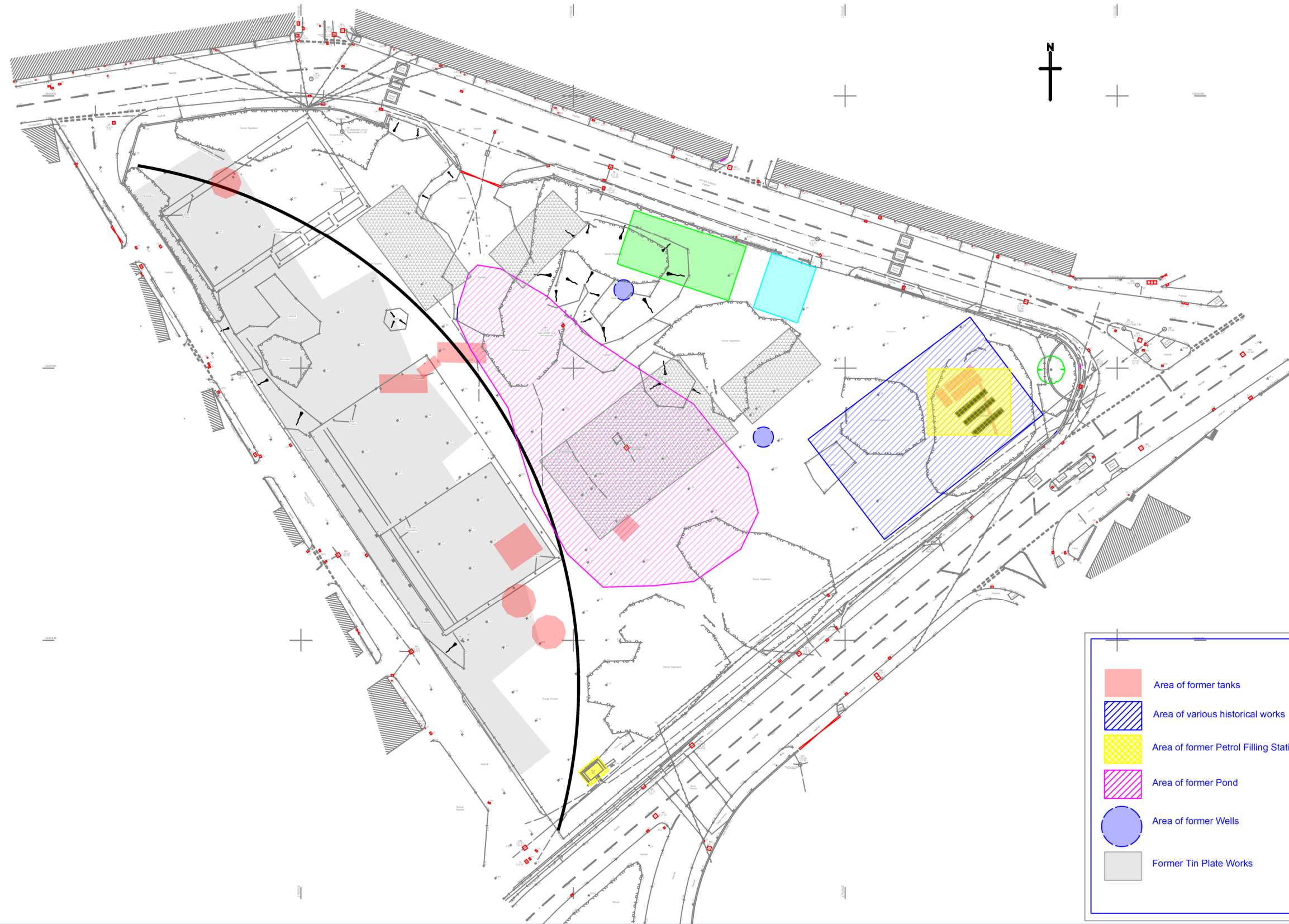
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APPENDIX 1 - Plans



GROUNDTECH CONSULTING	CLIENT	DATE			Status		Notes
	ALDI STORES LTD	NOVEMBER 2021			Preliminary		
	PROJECT TITLE	SCALE			Draft		
	AFAN WAY, PORT TALBOT	NTS			Issued		
	PLAN TITLE	PLAN NUMBER			For Comment		
PROJECT LOCATION PLAN	GRO-21252-P01	Rev.	Details	Date	Approved		
SITE LOCATION							



LEGEND

- | | | | |
|---|---------------------------------------|---|------------------------------|
|  | Area of former tanks |  | Former residential buildings |
|  | Area of various historical works |  | Former Mortuary |
|  | Area of former Petrol Filling Station |  | Substation |
|  | Area of former Pond |  | Former Corporation Depot |
|  | Area of former Wells |  | Historical Railway |
|  | Former Tin Plate Works | | |

GROUNDTECH
CONSULTING



CLIENT

ALDI STORES LIMITED

PROJECT TITLE

AFAN WAY, PORT TALBOT

PLAN TITLE

PRELIMINARY DEVELOPMENT CONSTRAINTS PLAN

DATE

DECEMBER 2021

SCALE

NTS

PLAN NUMBER

GRO-21252-P02

Rev.

Details

Date

Status

Preliminary

Draft

Issued

For Comment

Approved

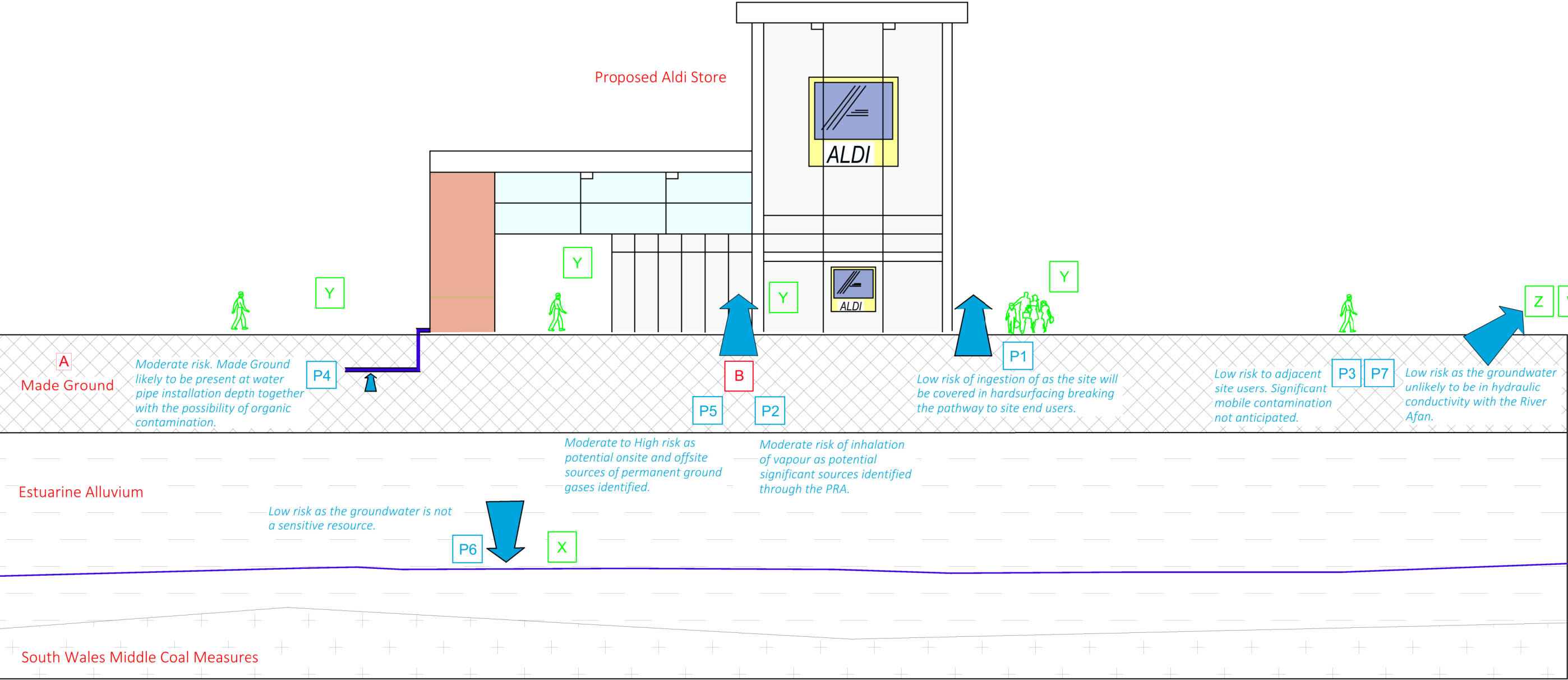
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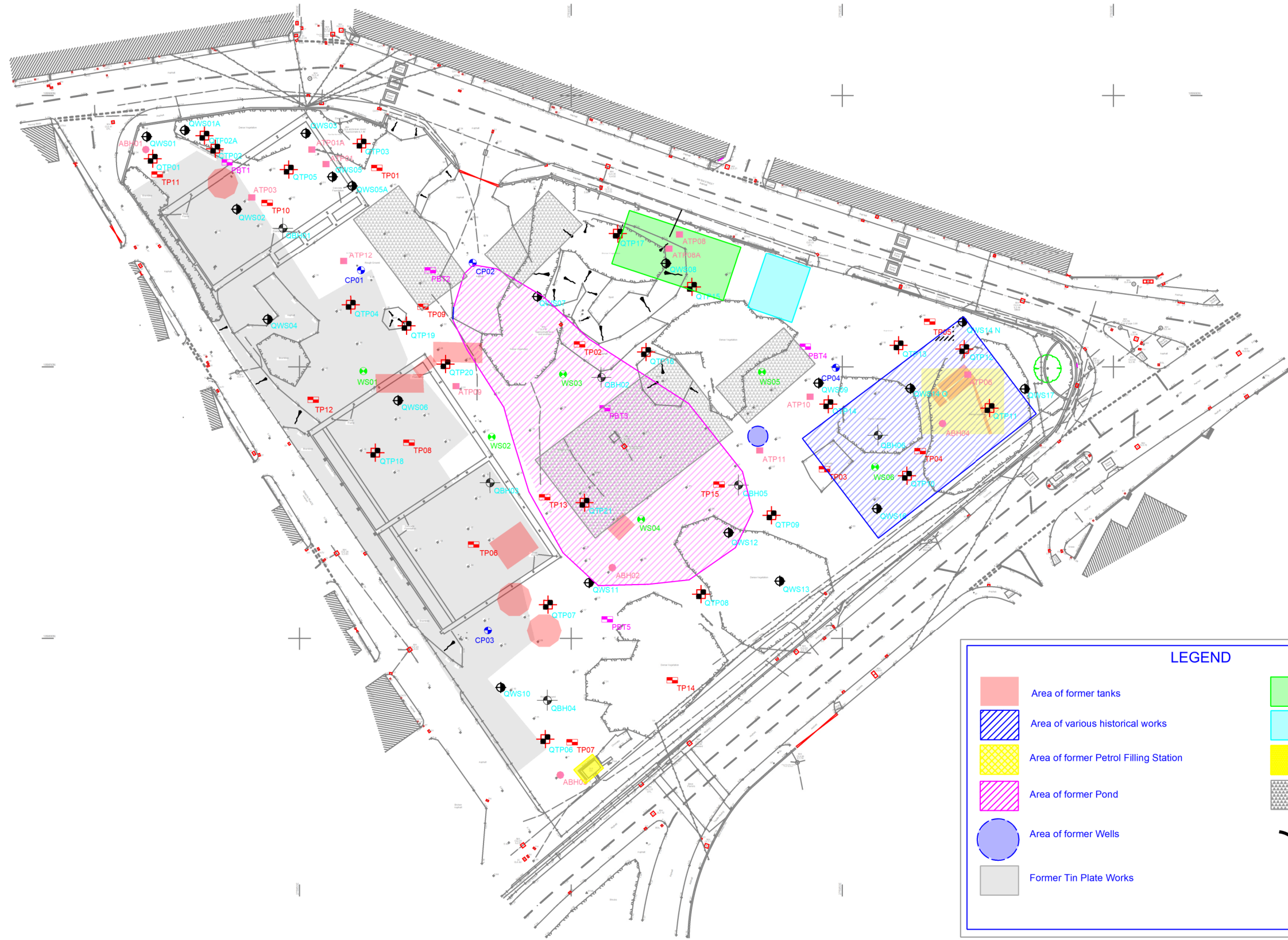
SOURCES
A. Contaminated soils / Made Ground. B. Ground gas.

POLLUTION LINKAGES
P1. Ingestion of soil and dust. P2. Inhalation of vapour. P3. Inhalation of soil dust by adjacent site users. P4. Attacking of potable water supply pipe. P5. Migration and accumulation of ground gas in internal places. P6. Impaction of groundwater from soil contamination. P7. Migration of soil and groundwater contamination impacting surface waters.

RECEPTORS
W. River Afan c.86m south. X. Groundwater within the underlying Secondary A Aquifers. Y. Site end users. Z. Adjacent site users.



GROUNDTECH CONSULTING	CLIENT	ALDI STORES LIMITED	DATE	DECEMBER 2021				Status		Notes
	PROJECT TITLE	AFAN WAY, PORT TALBOT	SCALE	NTS				Preliminary		
								Draft		
								Issued		
	PLAN TITLE	ILLUSTRATIVE PRELIMINARY CSM	PLAN NUMBER	GRO-21252-P03				For Comment		
					Rev.	Details	Date	Approved		



LEGEND

Area of former tanks

Area of various historical works

Area of former Petrol Filling Station

Area of former Pond

Area of former Wells

Former Tin Plate Works

Former residential buildings

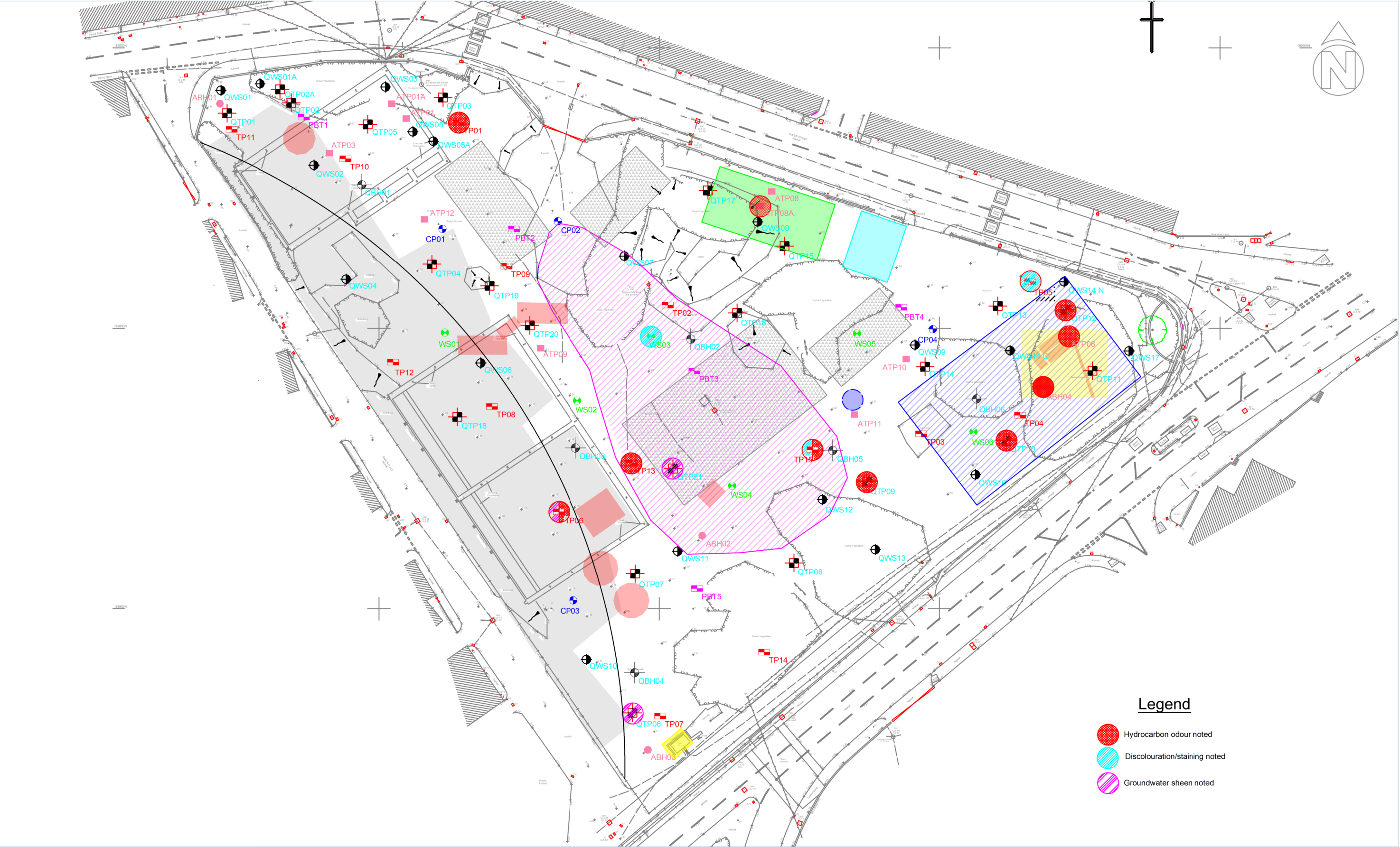
Former Mortuary

Substation

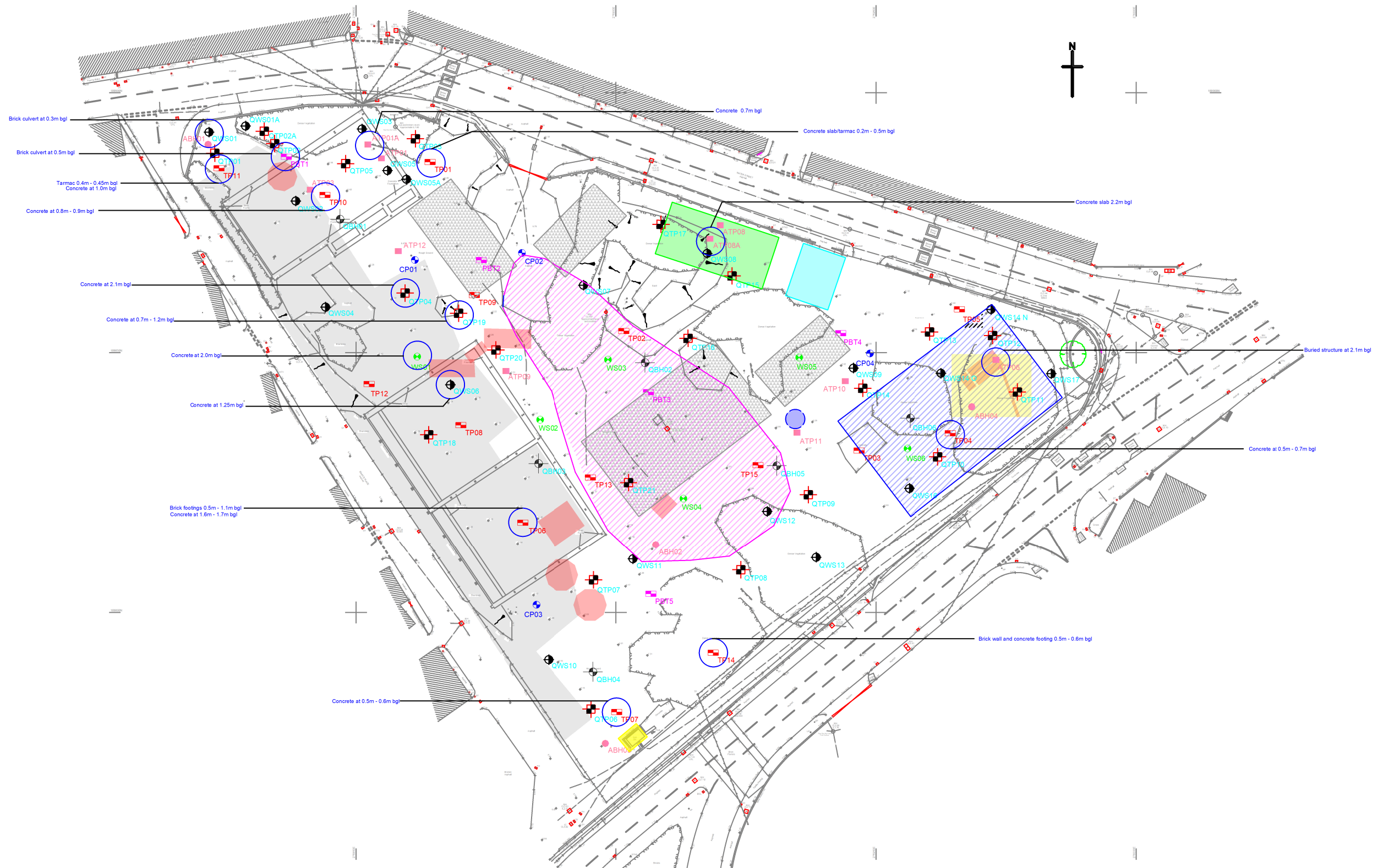
Former Corporation Depot

Historical Railway

GROUNDTECH CONSULTING	CLIENT	DATE			Status		Notes APPROXIMATE CABLE PERCUSSIVE BOREHOLE LOCATION APPROXIMATE WINDOWLESS SAMPLE BOREHOLE LOCATION APPROXIMATE TRIAL PIT LOCATION APPROXIMATE PLATE LOAD TEST LOCATION ARCADIS TRIAL PIT LOCATION ARCADIS BOREHOLE LOCATION QUANTUM TRIAL PIT LOCATION QUANTUM WINDOWLESS SAMPLE LOCATION QUANTUM CABLE PERCUSSIVE BOREHOLE LOCATION	
	ALDI STORES LIMITED	DECEMBER 2021			Preliminary			
	PROJECT TITLE	SCALE			Draft			
	AFAN WAY, PORT TALBOT	NTS			Issued			
	PLAN TITLE	PLAN NUMBER			For Comment			
	EXPLORATORY HOLE LOCATION PLAN	GRO-21252-P04	Rev.	Details	Date	Approved		



GROUNDTECH CONSULTING	CLIENT	DATE				Status		Notes APPROXIMATE CABLE PERCUSSIVE BOREHOLE LOCATION APPROXIMATE WINDOWLESS SAMPLE BOREHOLE LOCATION APPROXIMATE TRIAL PIT LOCATION APPROXIMATE PLATE LOAD TEST LOCATION
	ALDI STORES LIMITED	DECEMBER 2021				Preliminary		
	PROJECT TITLE	SCALE				Draft		
	AFAN WAY, PORT TALBOT	NTS				Issued		
	PLAN TITLE	PLAN NUMBER				For Comment		
	OLFACTORY EVIDENCE OF CONTAMINATION PLAN	GRO-21252-P04	Rev.	Details	Date	Approved		



CLIENT
ALDI STORES LIMITED
PROJECT TITLE
AFAN WAY, PORT TALBOT
PLAN TITLE
OBSTRUCTION LOCATION PLAN

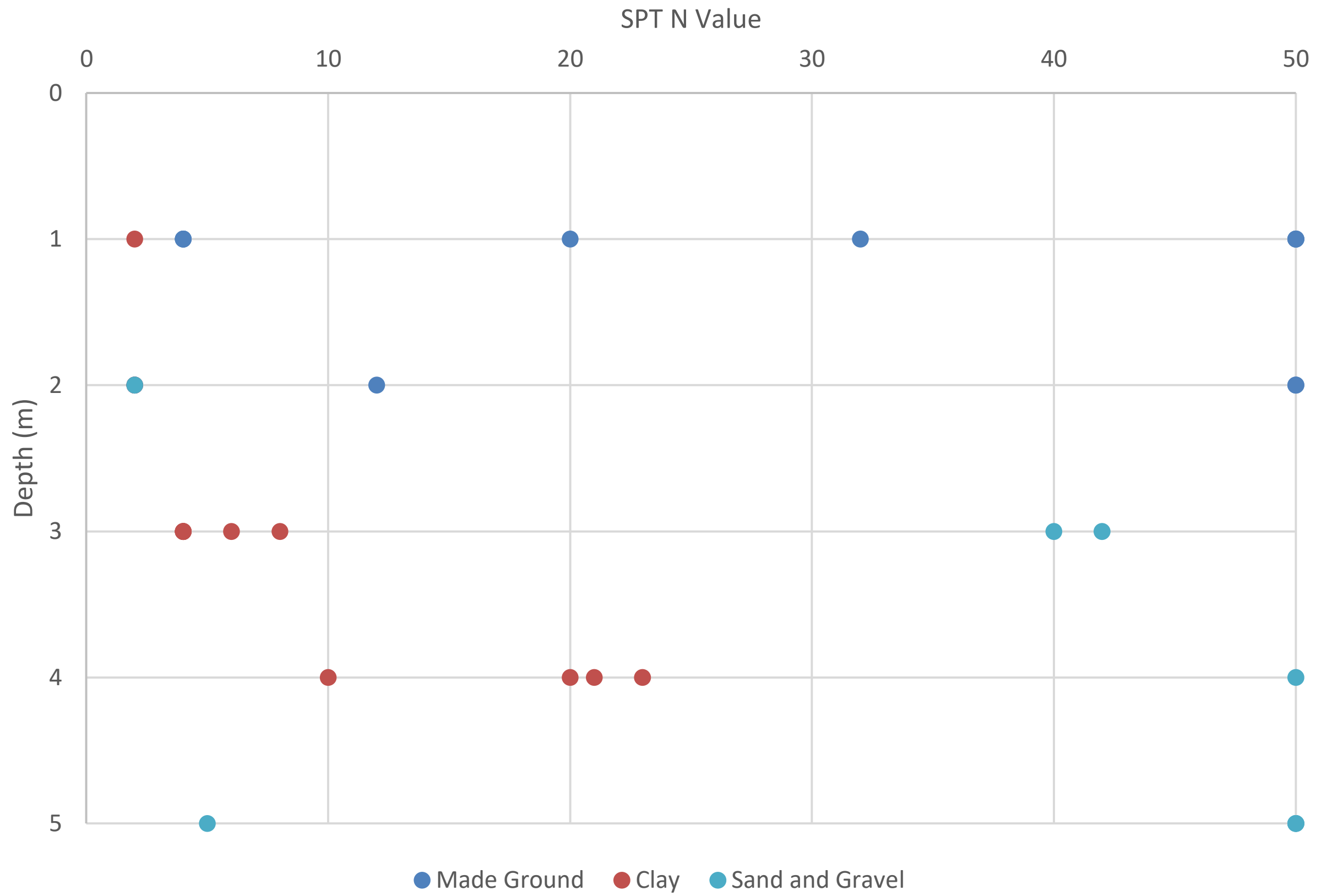
DATE
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SCALE
NTS
PLAN NUMBER
GRO-21252-P07

Rev.	Details	Date

Status
Preliminary
Draft
Issued
For Comment
Approved

Notes
APPROXIMATE CABLE PERCUSSIVE BOREHOLE LOCATION
APPROXIMATE WINDOWLESS SAMPLE BOREHOLE LOCATION
APPROXIMATE TRIAL PIT LOCATION
APPROXIMATE PLATE LOAD TEST LOCATION

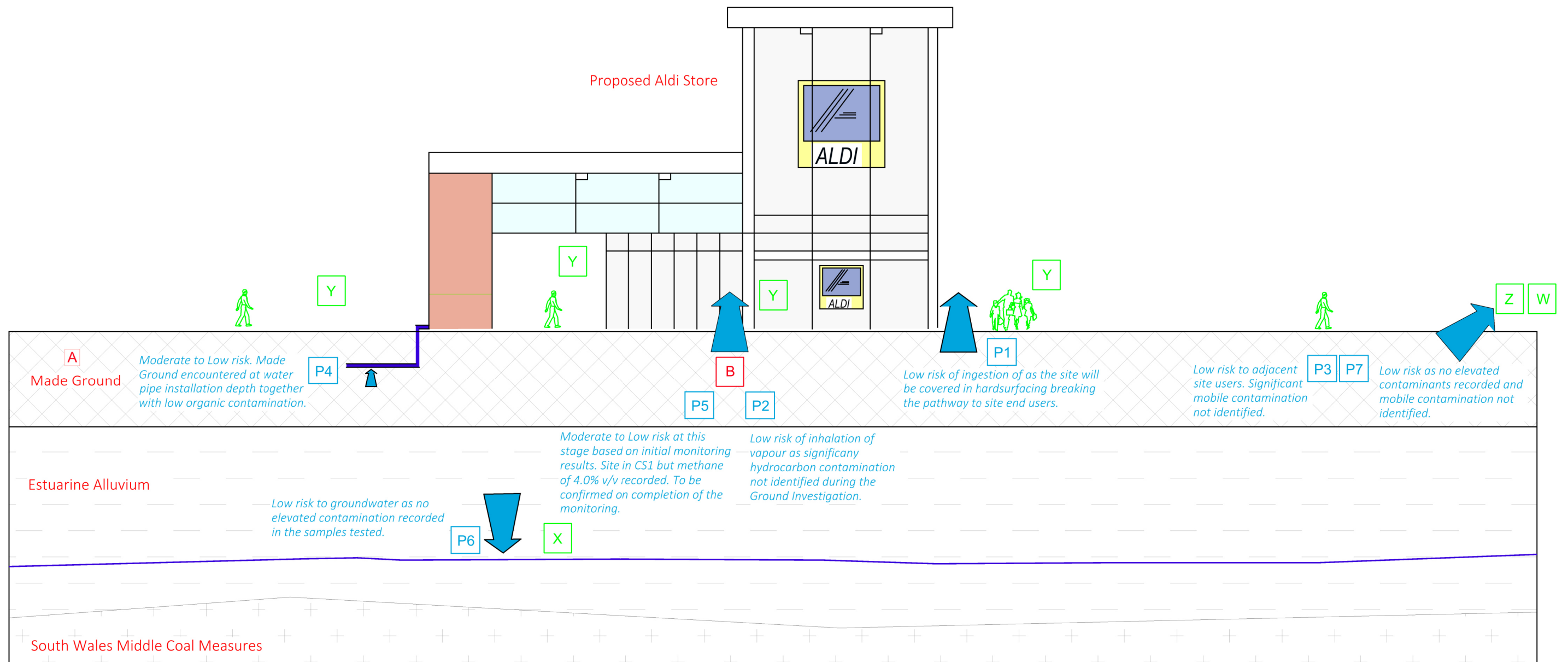




A. Contaminated soils / Made Ground.
B. Ground gas.

- P1. Ingestion of soil and dust.
- P2. Inhalation of vapour.
- P3. Inhalation of soil dust by adjacent site users.
- P4. Attacking of potable water supply pipe.
- P5. Migration and accumulation of ground gas in internal places.
- P6. Impaction of groundwater from soil contamination.
- P7. Migration of soil and groundwater contamination impacting surface waters.

- W. River Afan c.86m south.
- X. Groundwater within the underlying Secondary A Aquifers.
- Y. Site end users.
- Z. Adjacent site users.



APPENDIX 2 - Site Photographs



Photograph 1 – Southern site area.



Photograph 2 – Site entrance.



Photograph 3 – Southern site area.



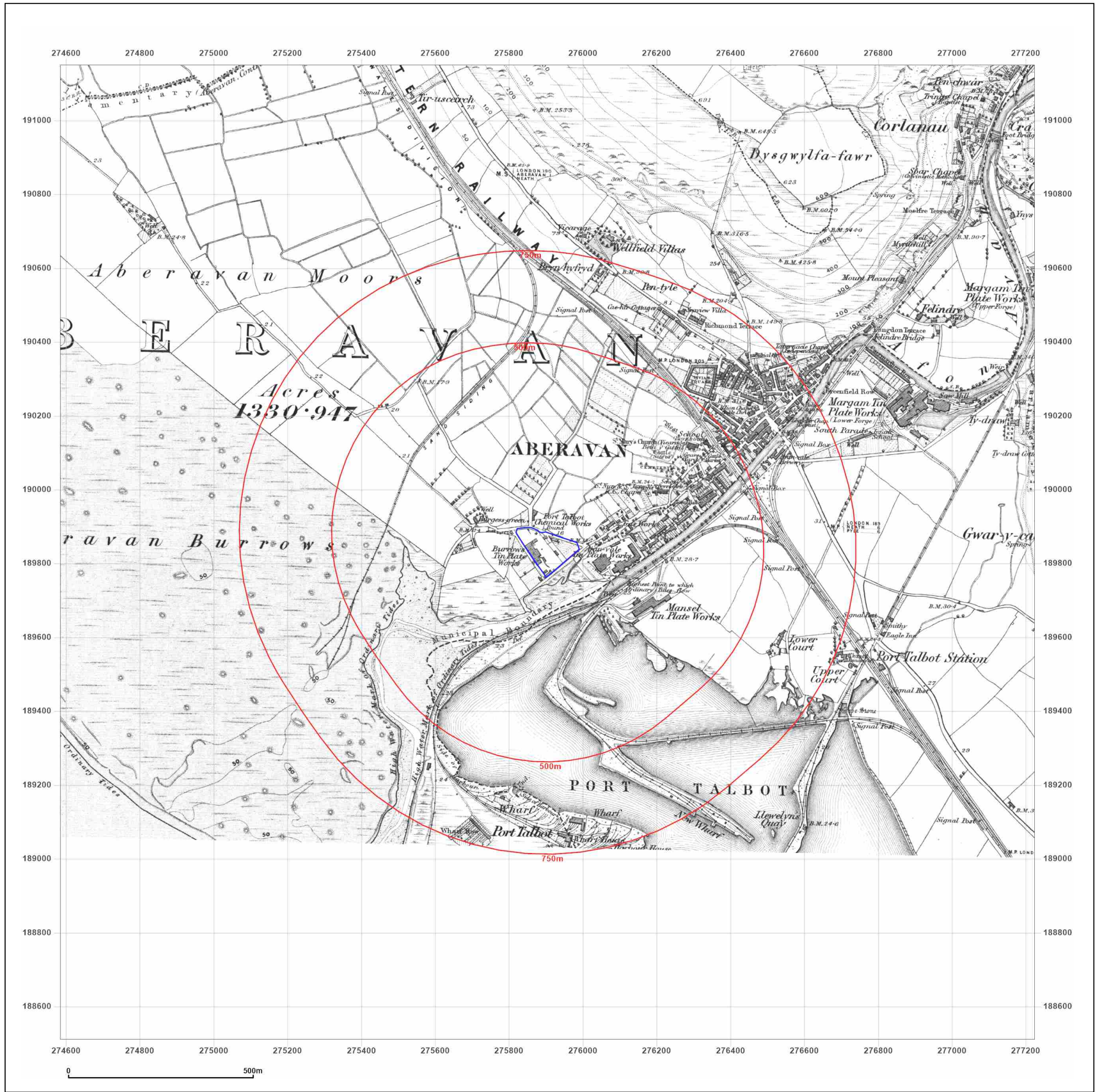
Photograph 4 - Substation in eastern site area.



Photograph 5 – Weir to east of site.



APPENDIX 3 - Historical Plans



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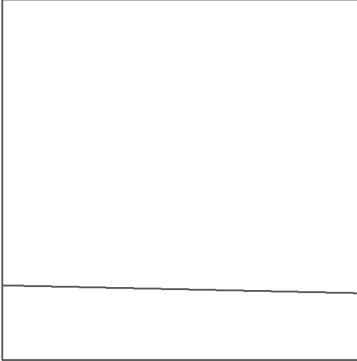
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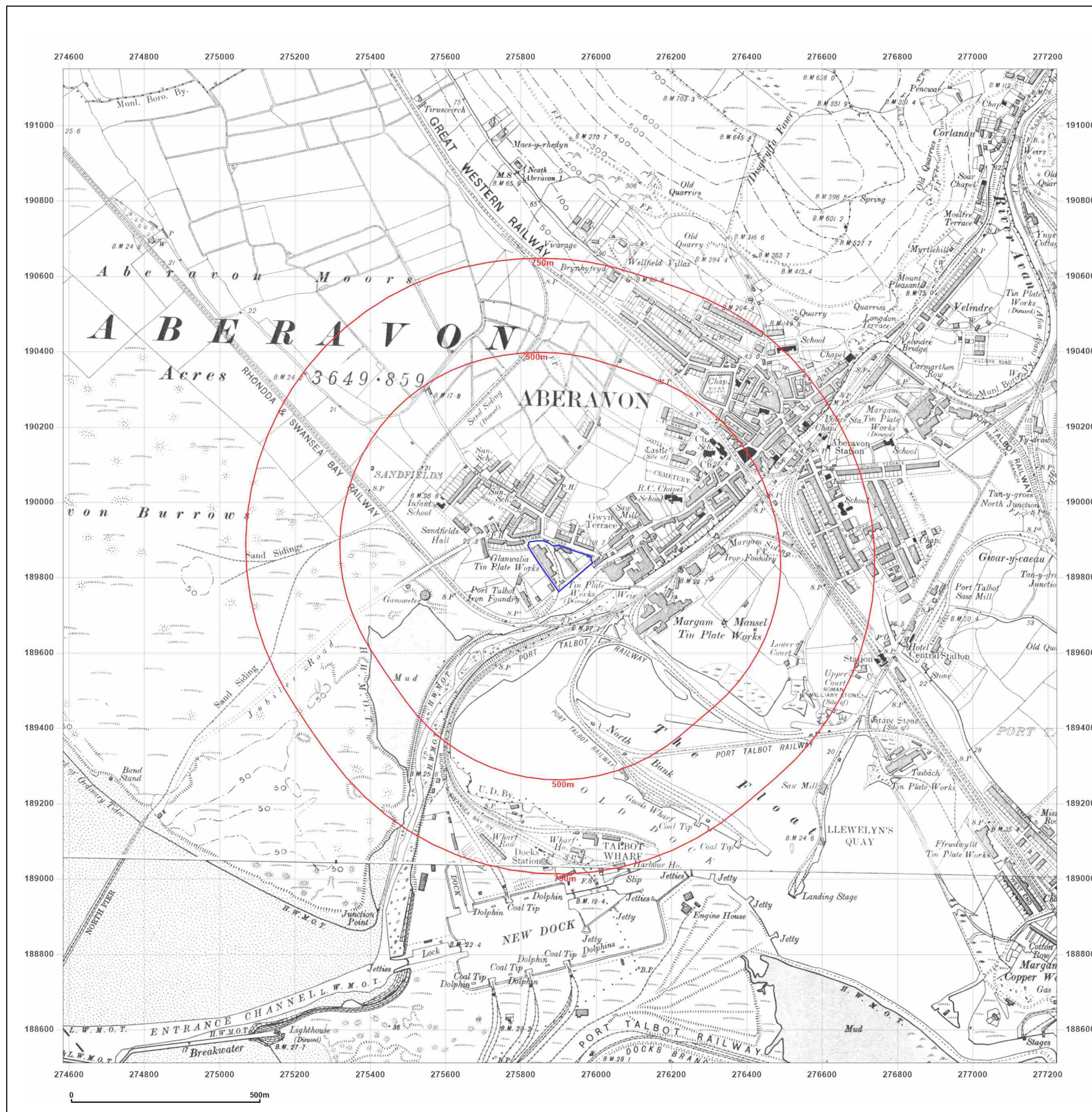


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Map Name: County Series

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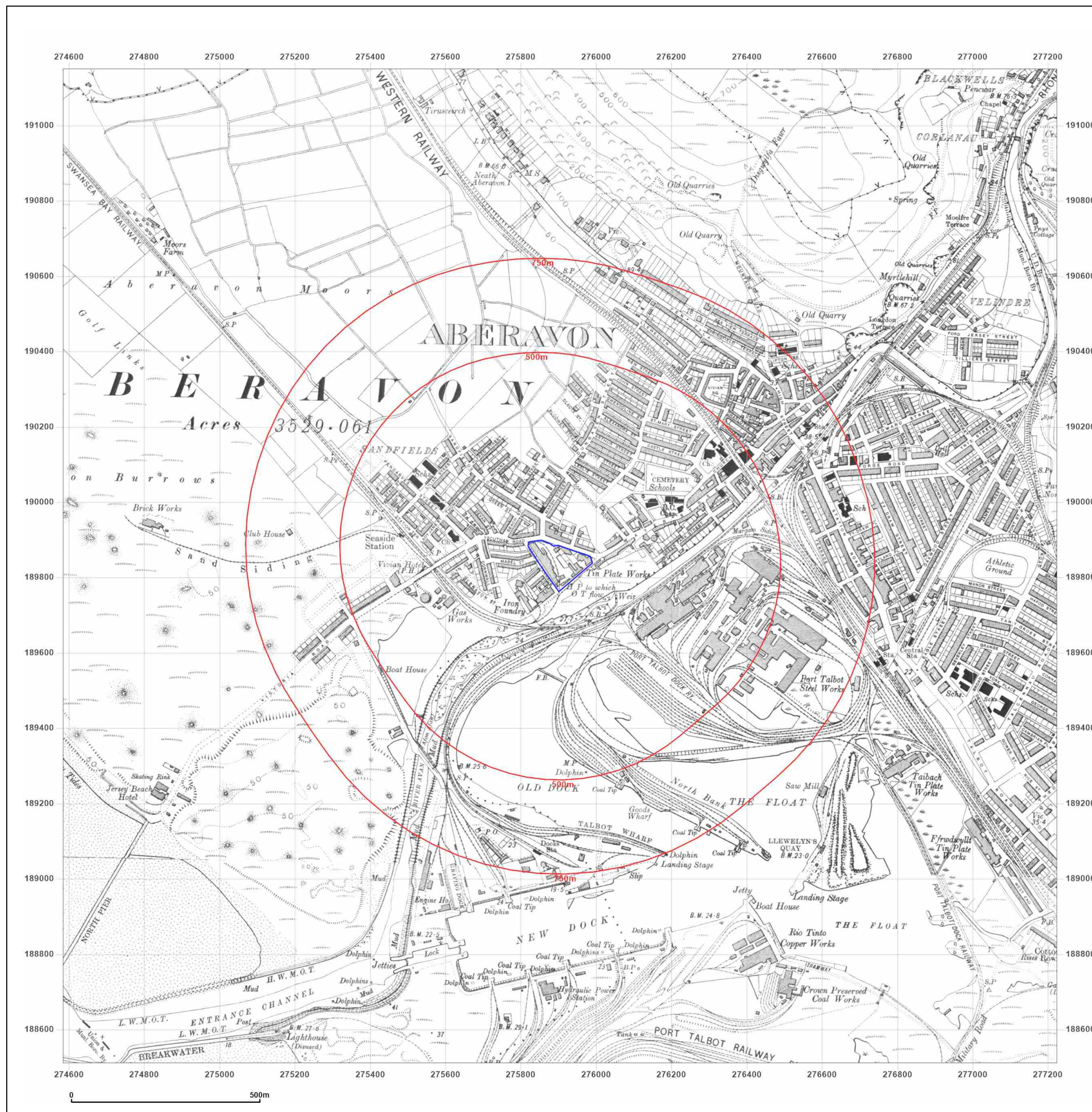


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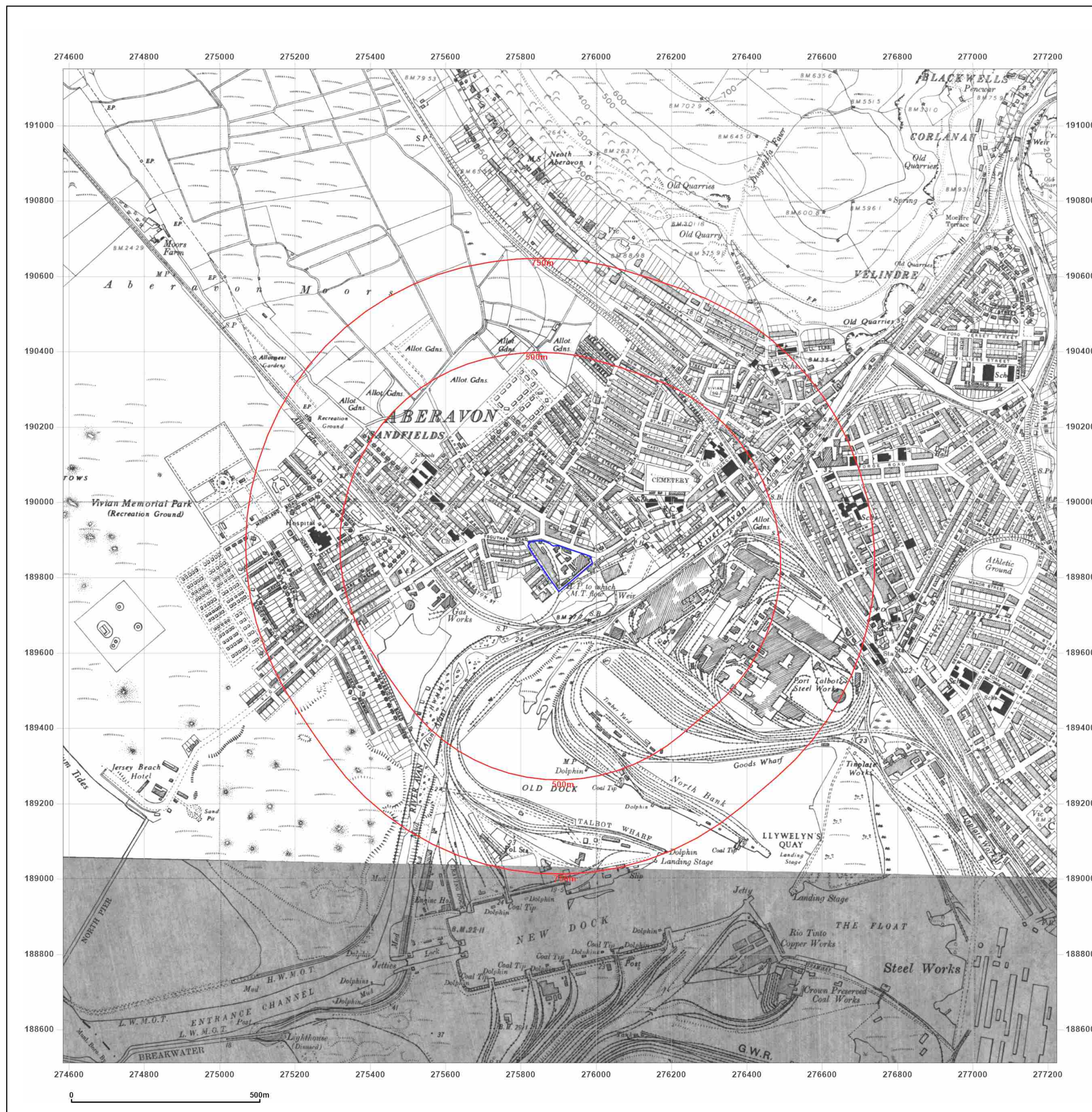


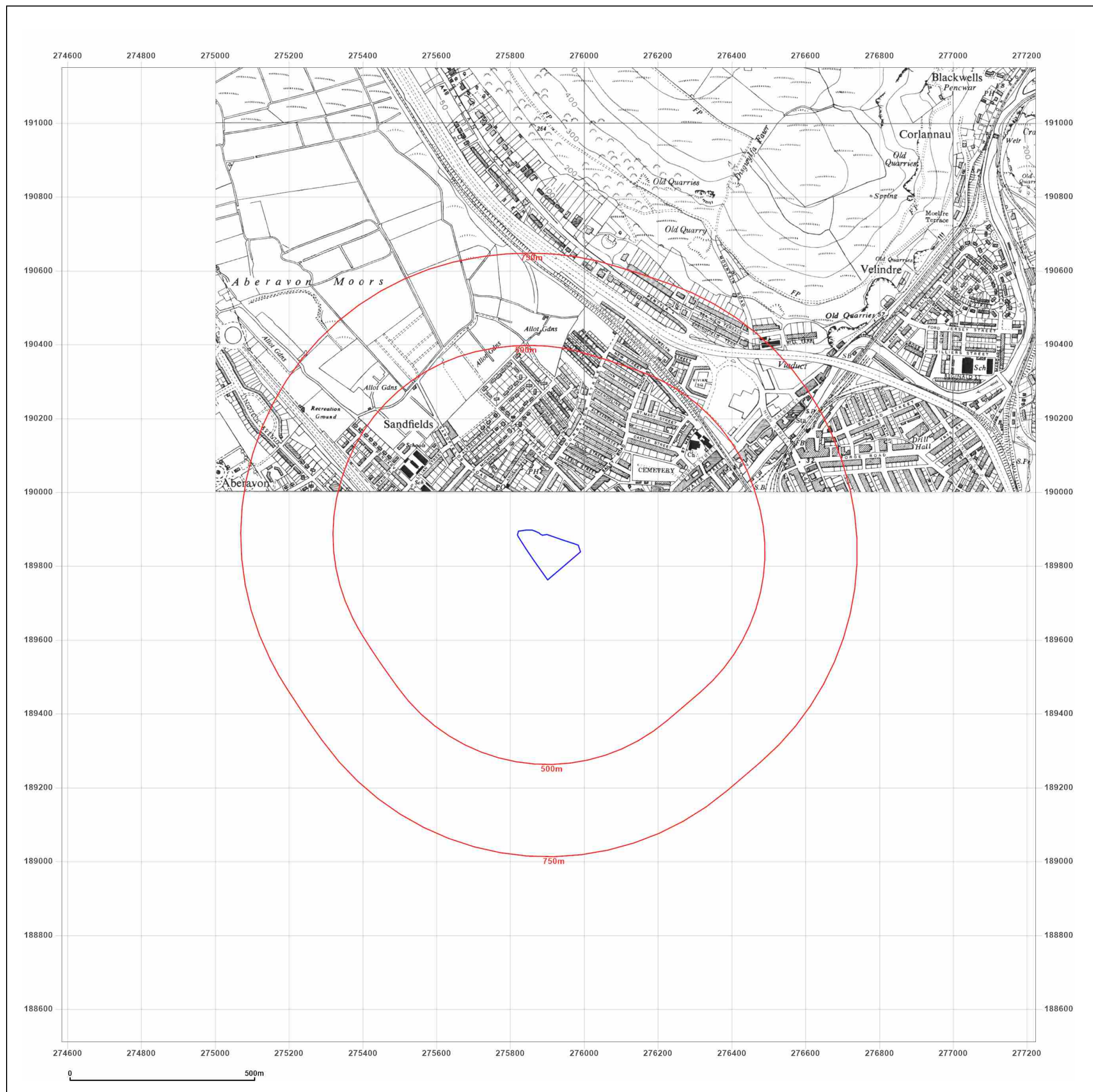
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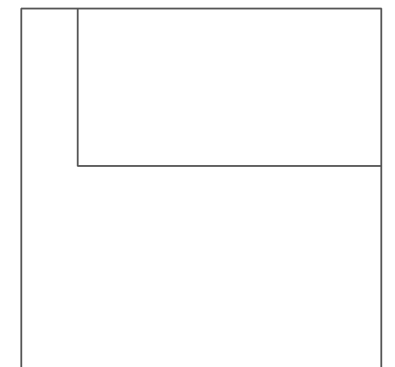
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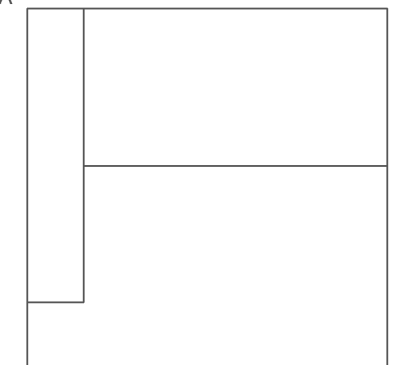
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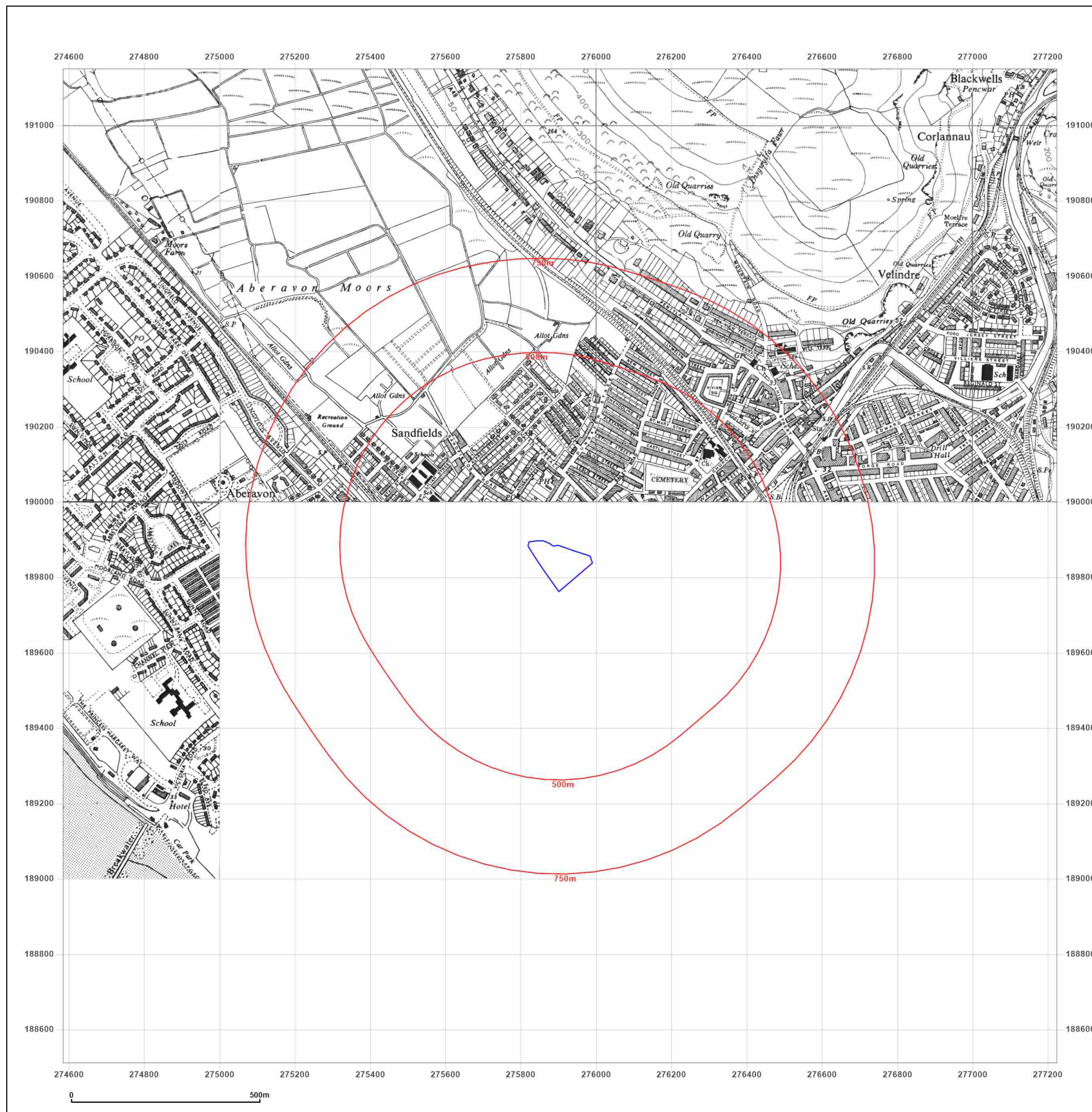


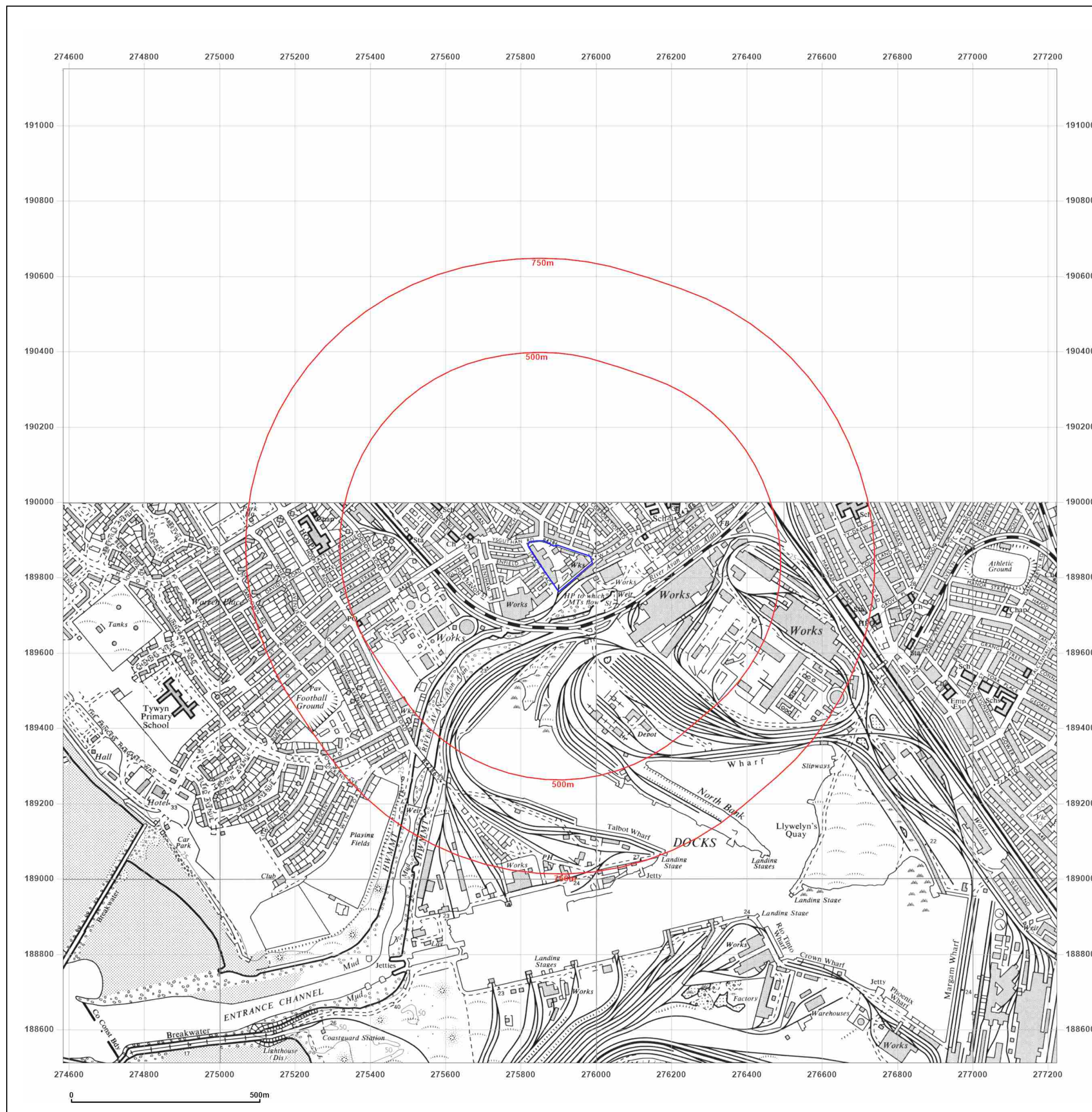
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Scale: 1:10,560

Printed at: 1:10,560



Surveyed	1965
Revised	1965
Edition	N/A
Copyright	N/A
Levelled	N/A



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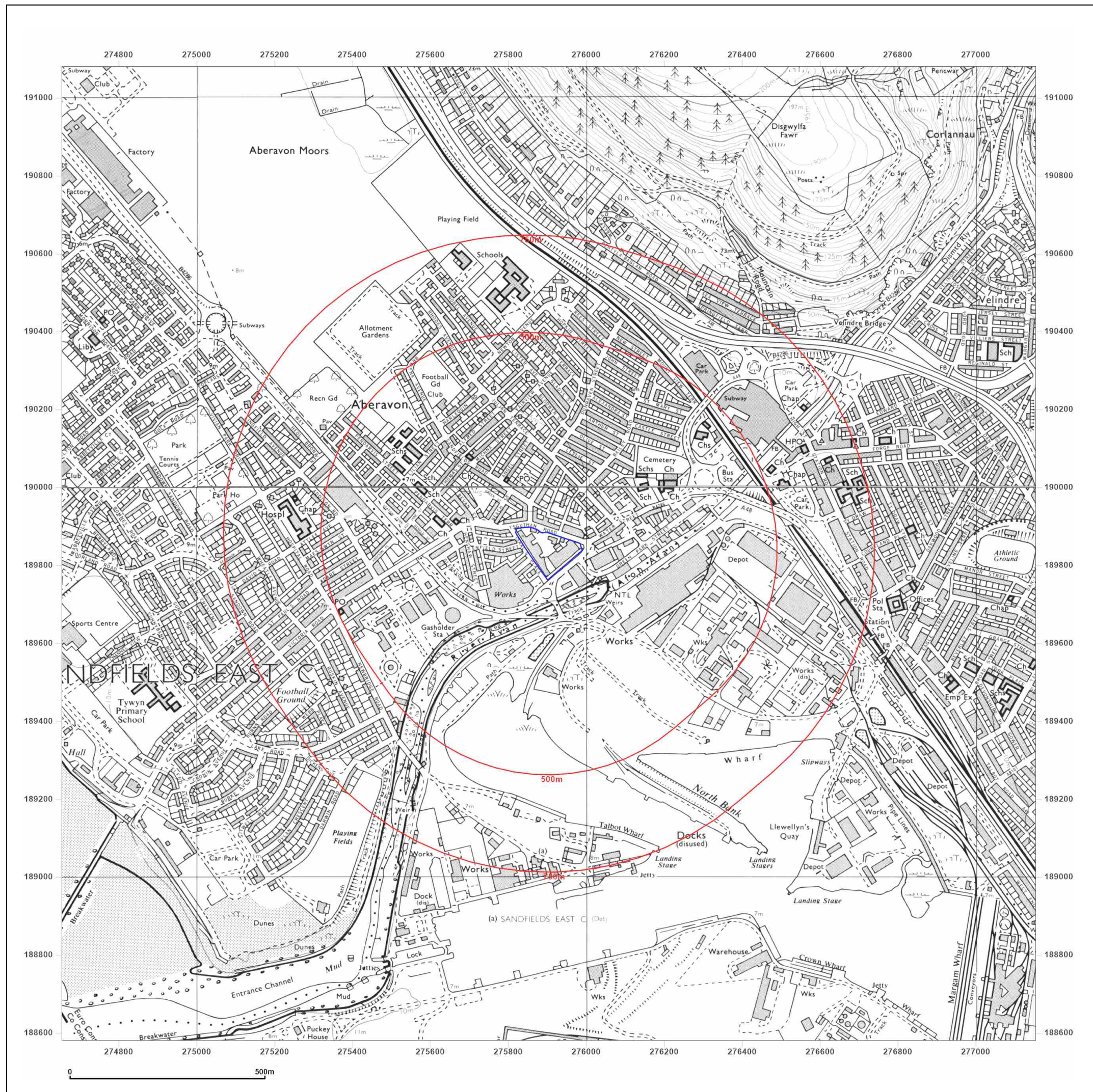


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Production date: 28 September 2021

Map legend available at:
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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1980-1982

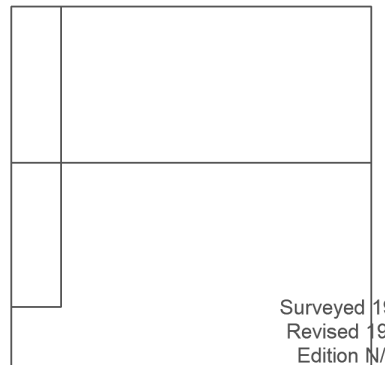
Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1977
Revised 1979
Edition N/A
Copyright 1980
Levelled 1978

Surveyed 1977
Revised 1979
Edition N/A
Copyright 1980
Levelled 1978



Surveyed 1977
Revised 1982
Edition N/A
Copyright 1982
Levelled 1978



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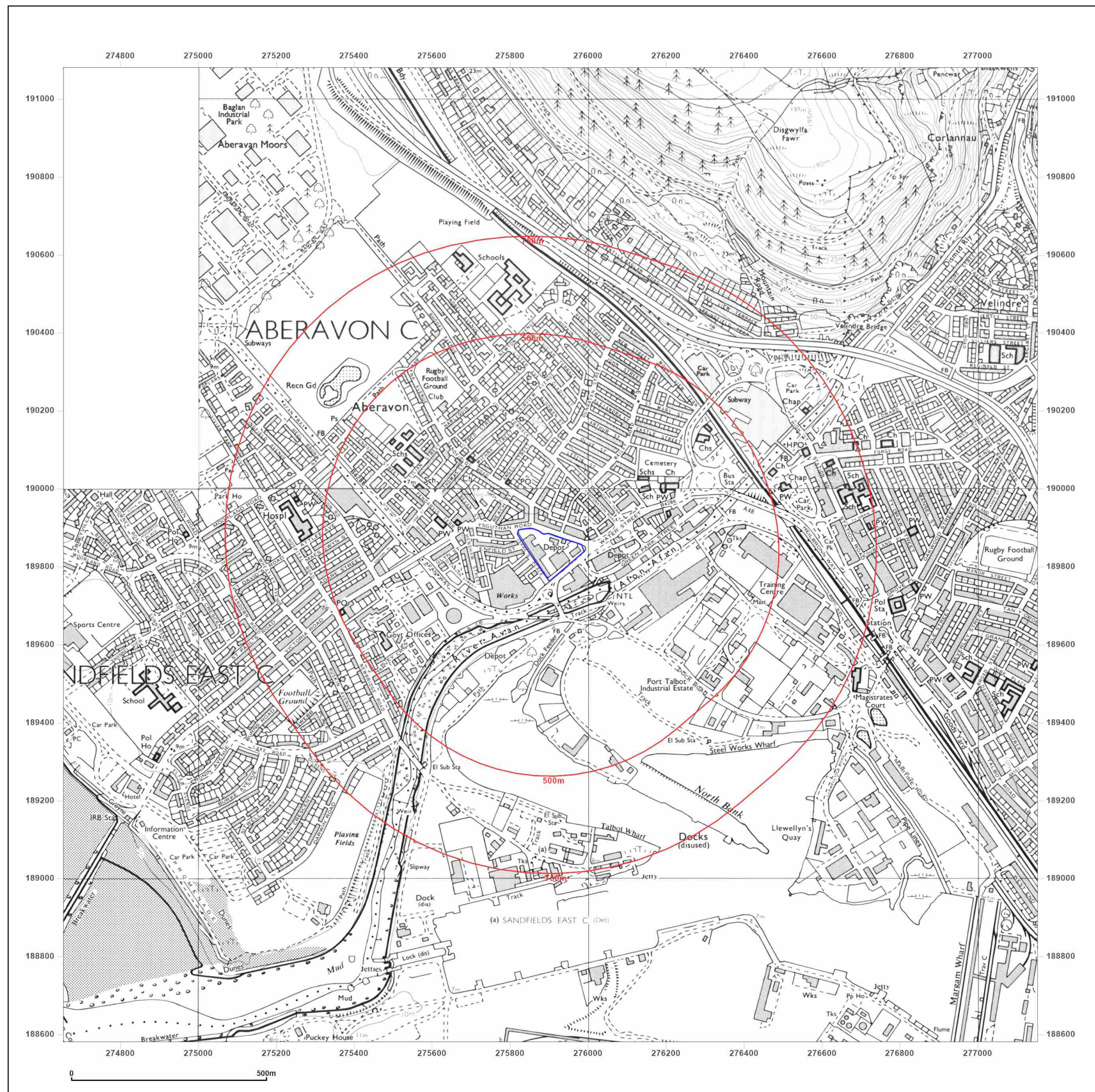


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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

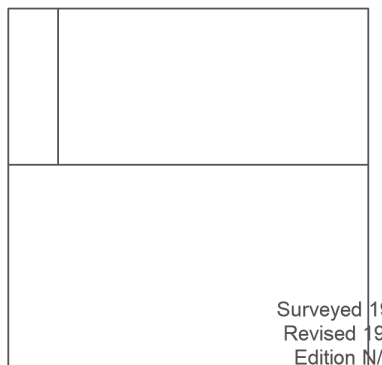
Map date: 1993-1995

Scale: 1:10,000

Printed at: 1:10,000



Surveyed 1977
Revised 1995
Edition N/A
Copyright N/A
Levelled N/A



Surveyed 1991
Revised 1991
Edition N/A
Copyright 1993
Levelled N/A



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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 2001

Scale: 1:10,000

Printed at: 1:10,000



2001



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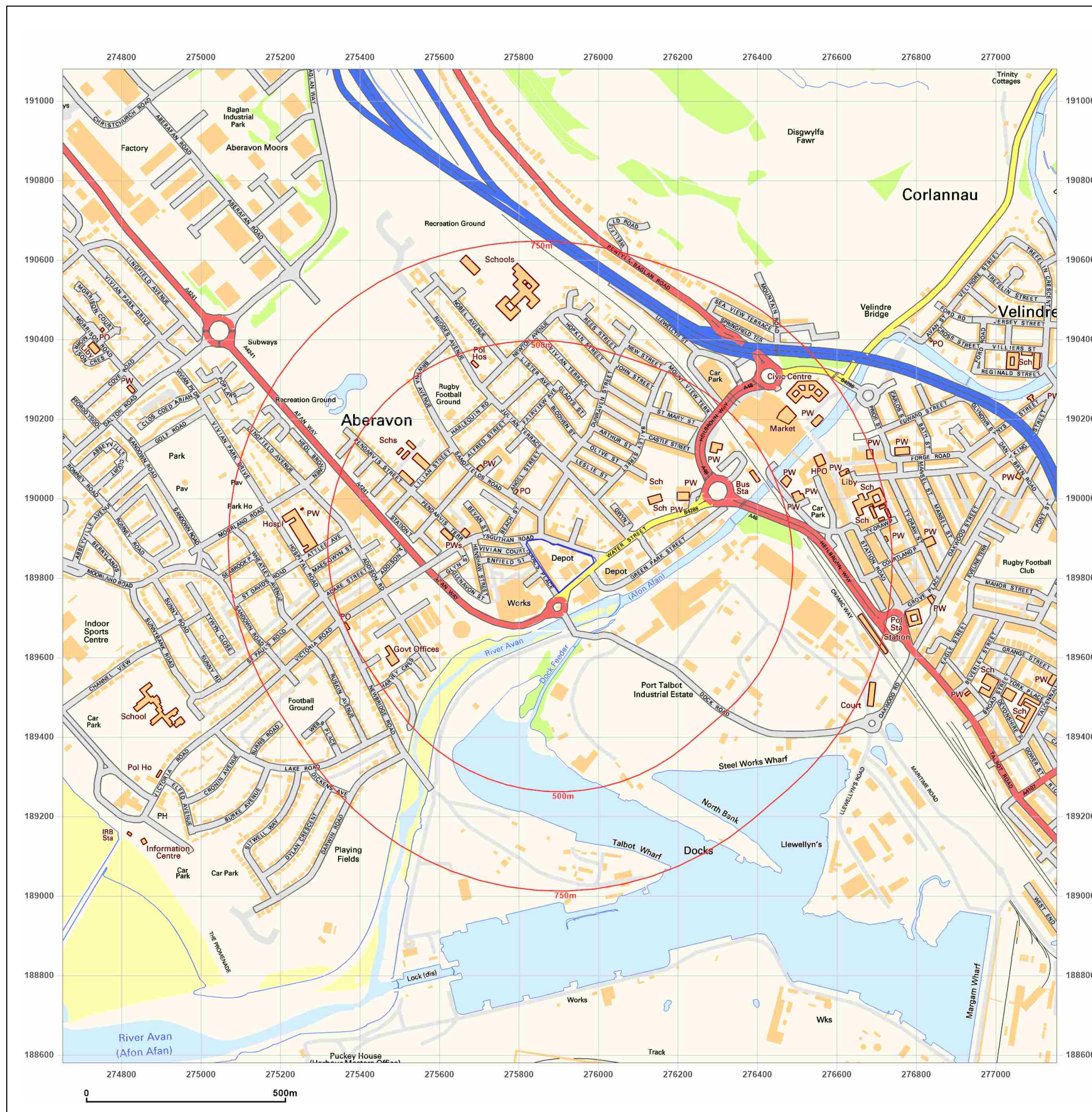


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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 2010

Scale: 1:10,000

Printed at: 1:10,000



2010



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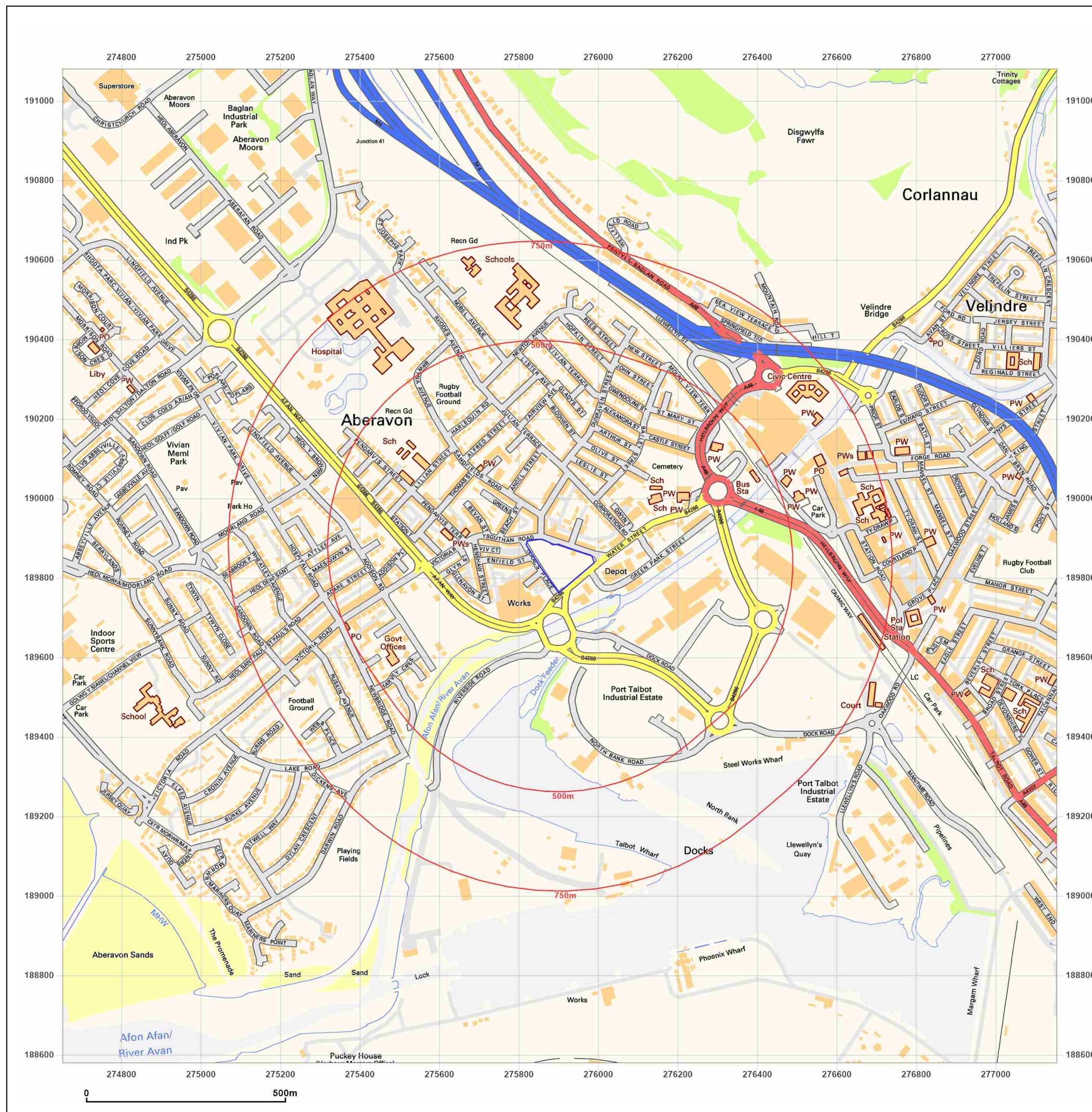


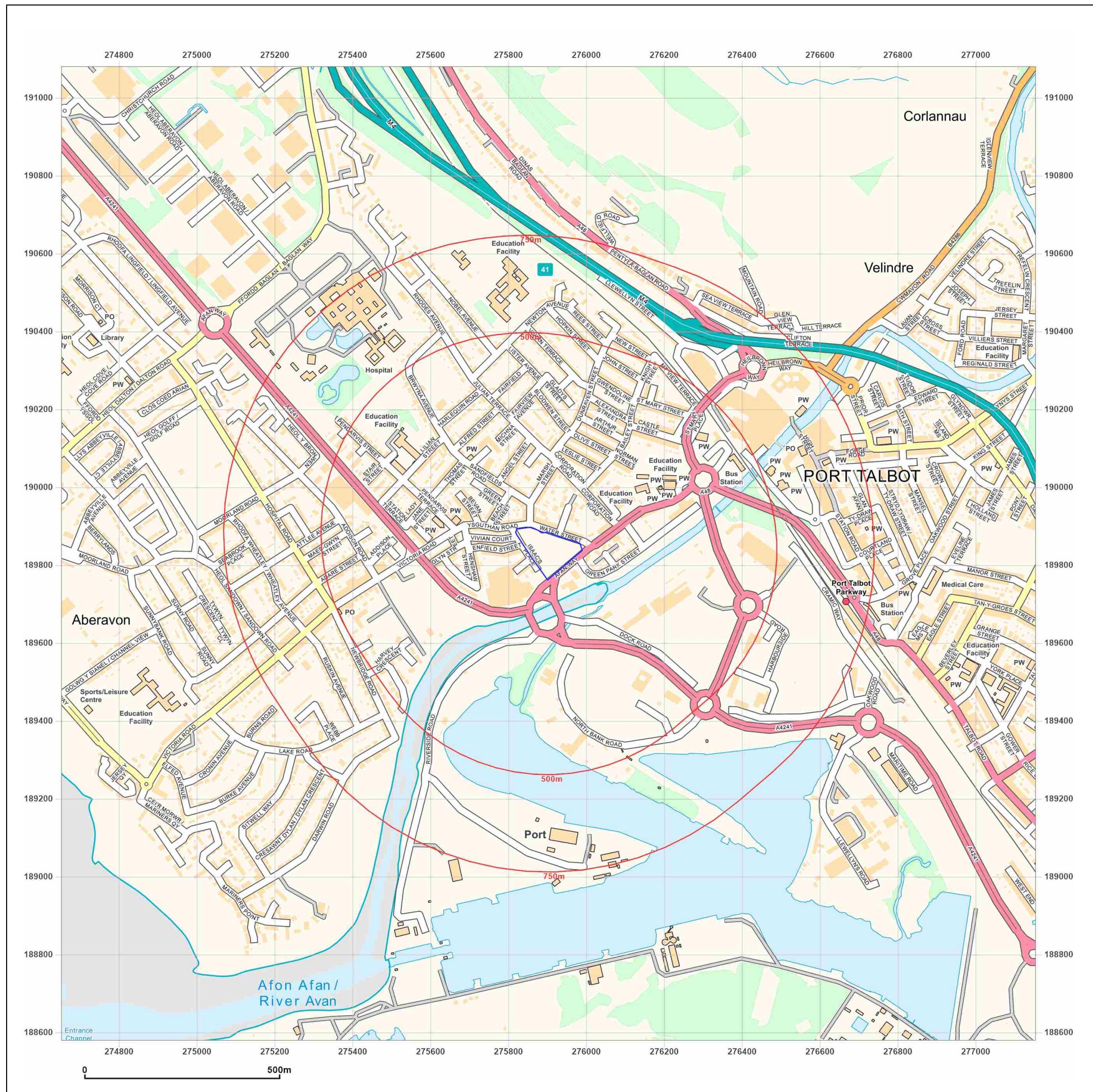
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Map legend available at:
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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 2021

Scale: 1:10,000

Printed at: 1:10,000



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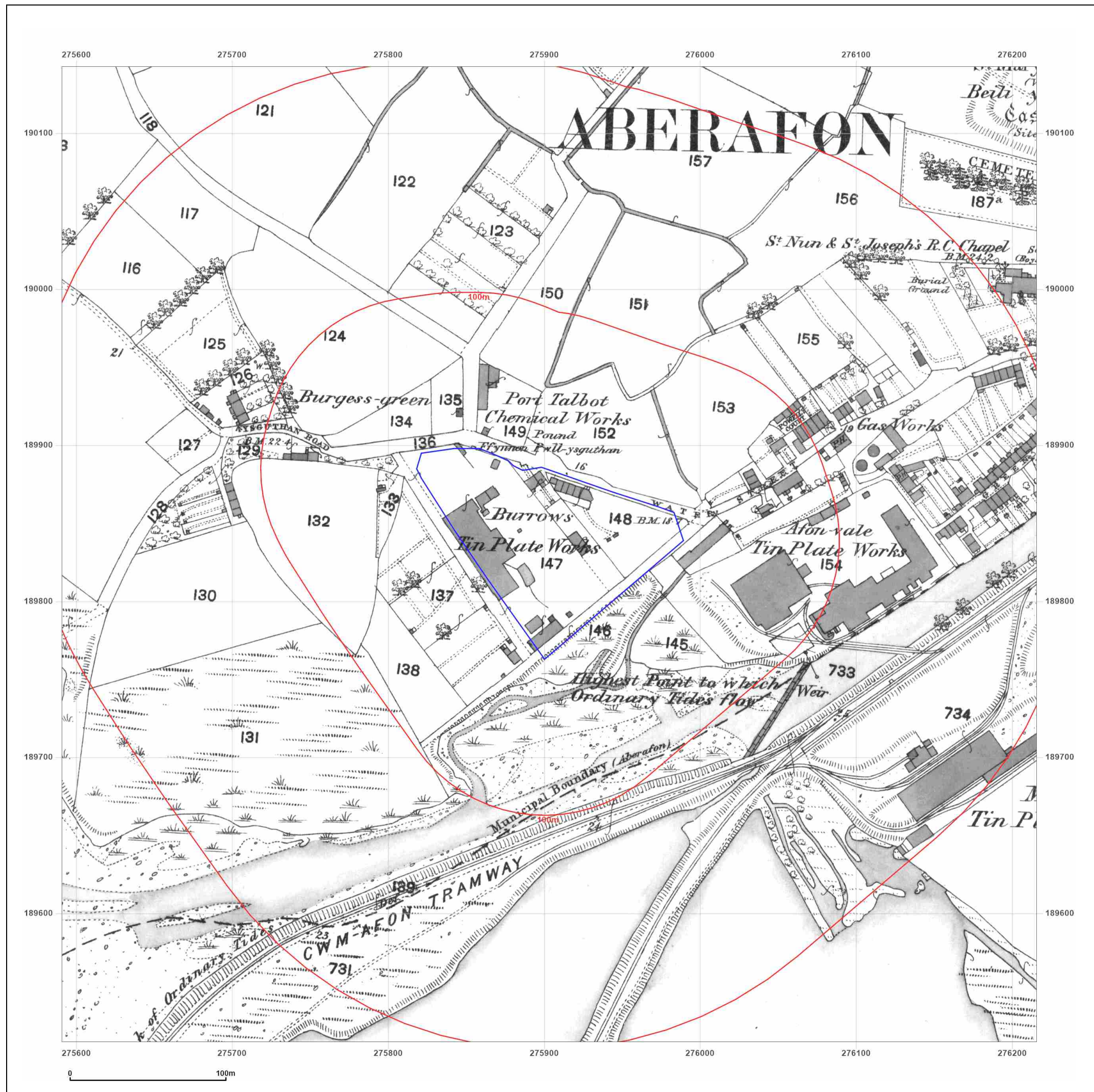


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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: County Series

Map date: 1881

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1881
Revised 1881
Edition N/A
Copyright N/A
Levelled N/A



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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: County Series

Map date: 1899

Scale: 1:2,500

Printed at: 1:2,500



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



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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: County Series

Map date: 1917

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1917
 Revised 1917
 Edition N/A
 Copyright N/A
 Levelled N/A



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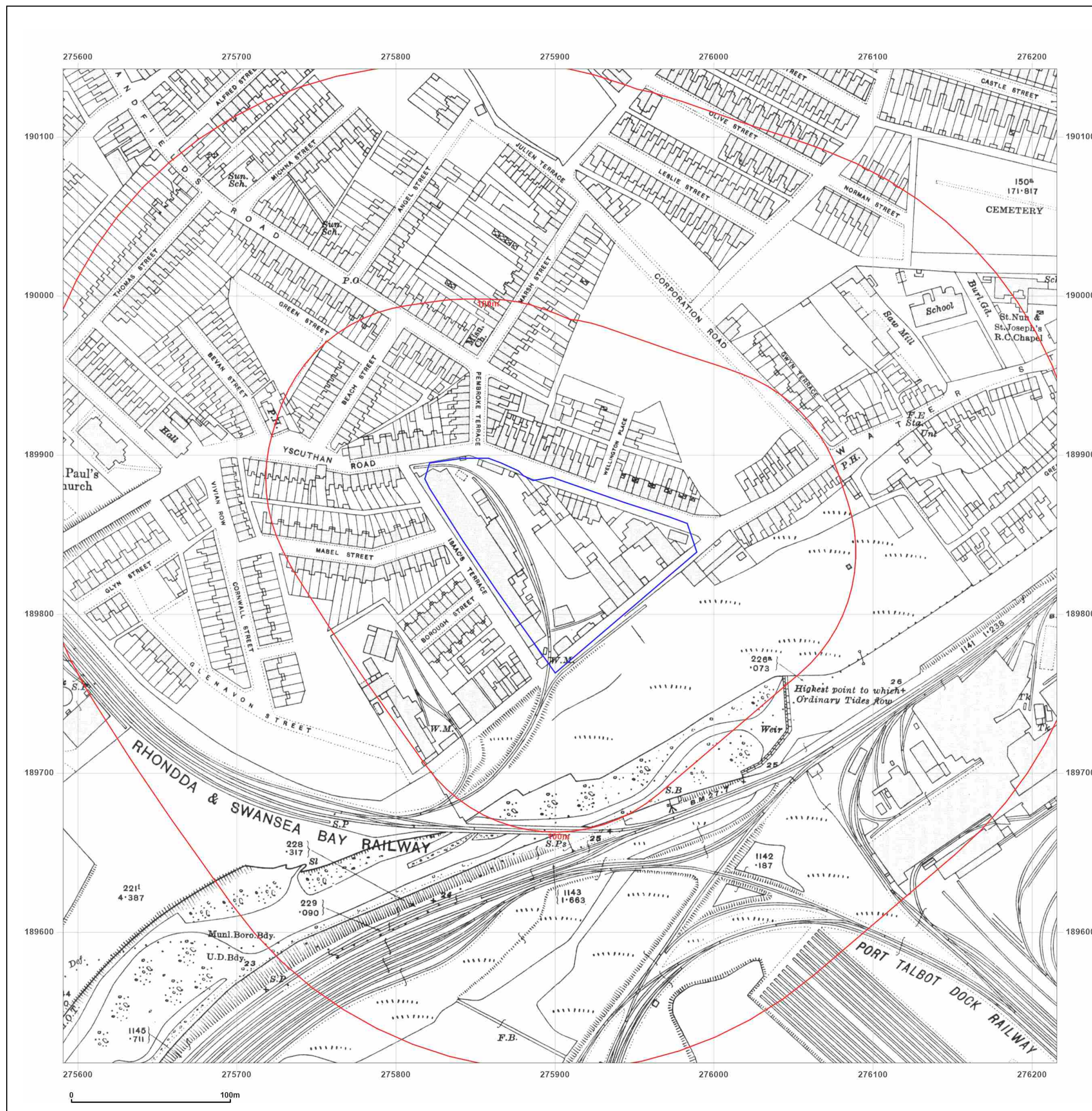


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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: County Series

Map date: 1939

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1939
Revised 1939
Edition N/A
Copyright N/A
Levelled N/A



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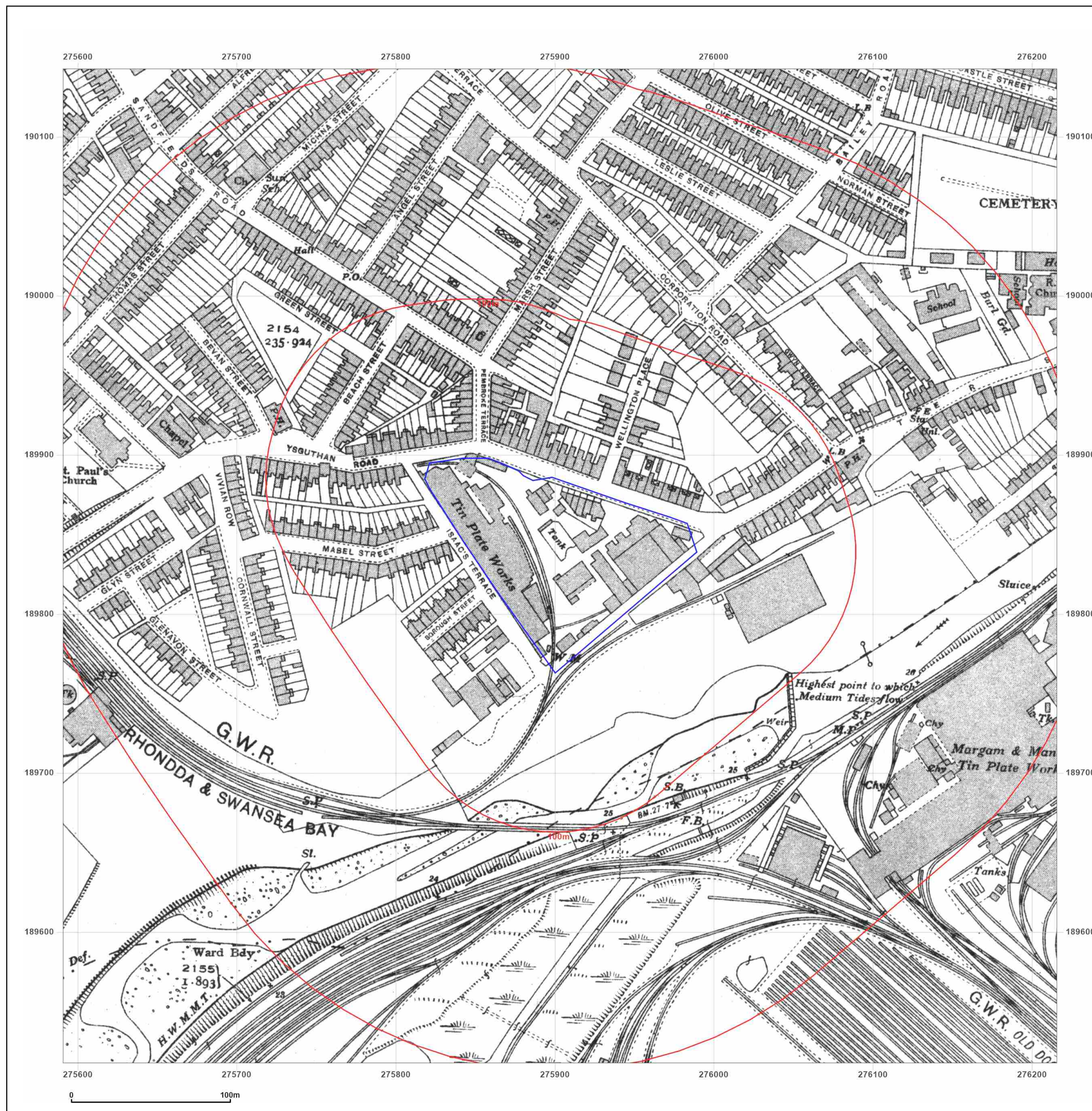


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Production date: 28 September 2021

Map legend available at:
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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1950-1951

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled 1949

Surveyed 1950
 Revised 1950
 Edition N/A
 Copyright N/A
 Levelled 1949

Surveyed 1950
 Revised 1950
 Edition N/A
 Copyright N/A
 Levelled 1949

Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled 1949



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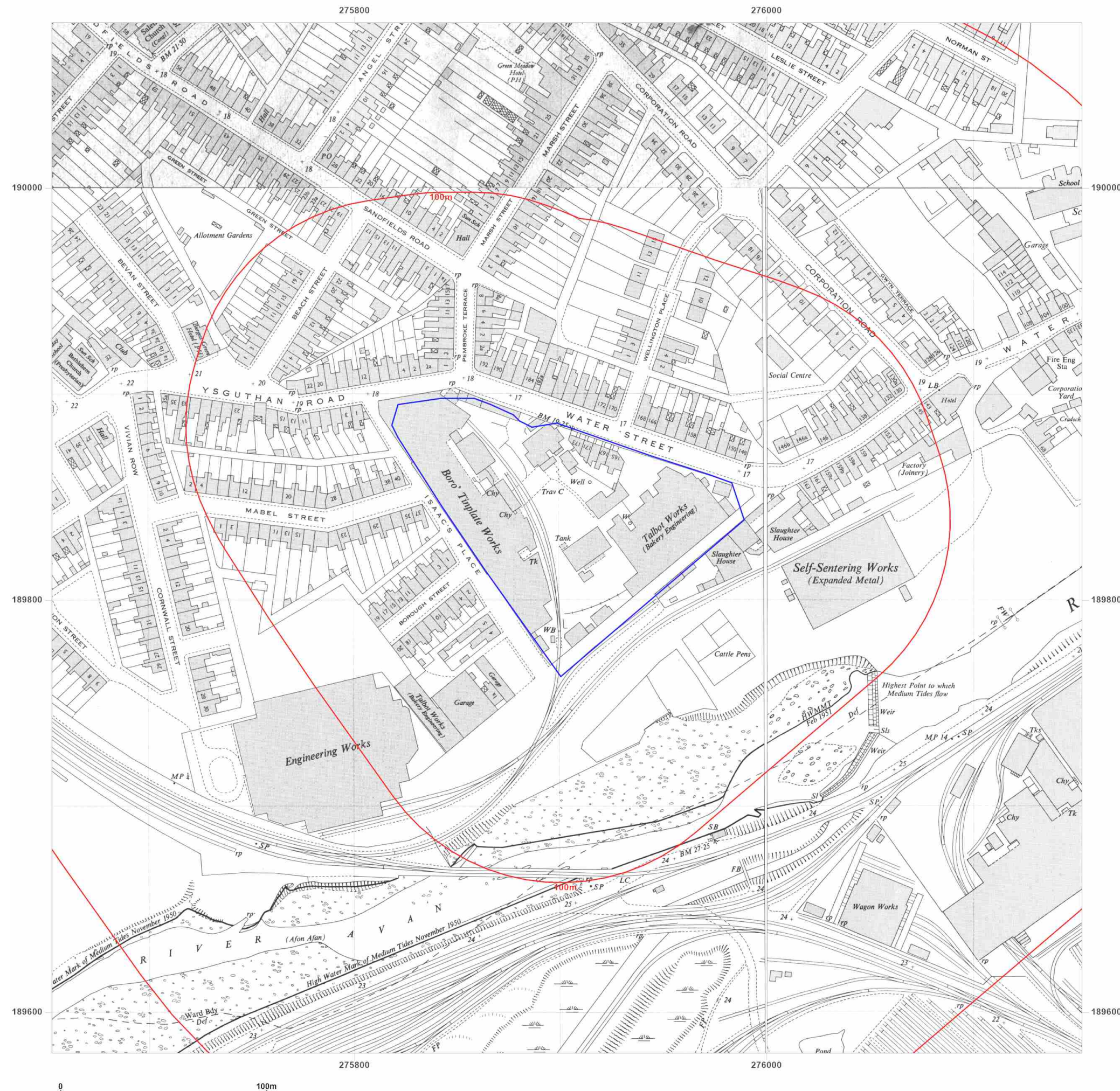


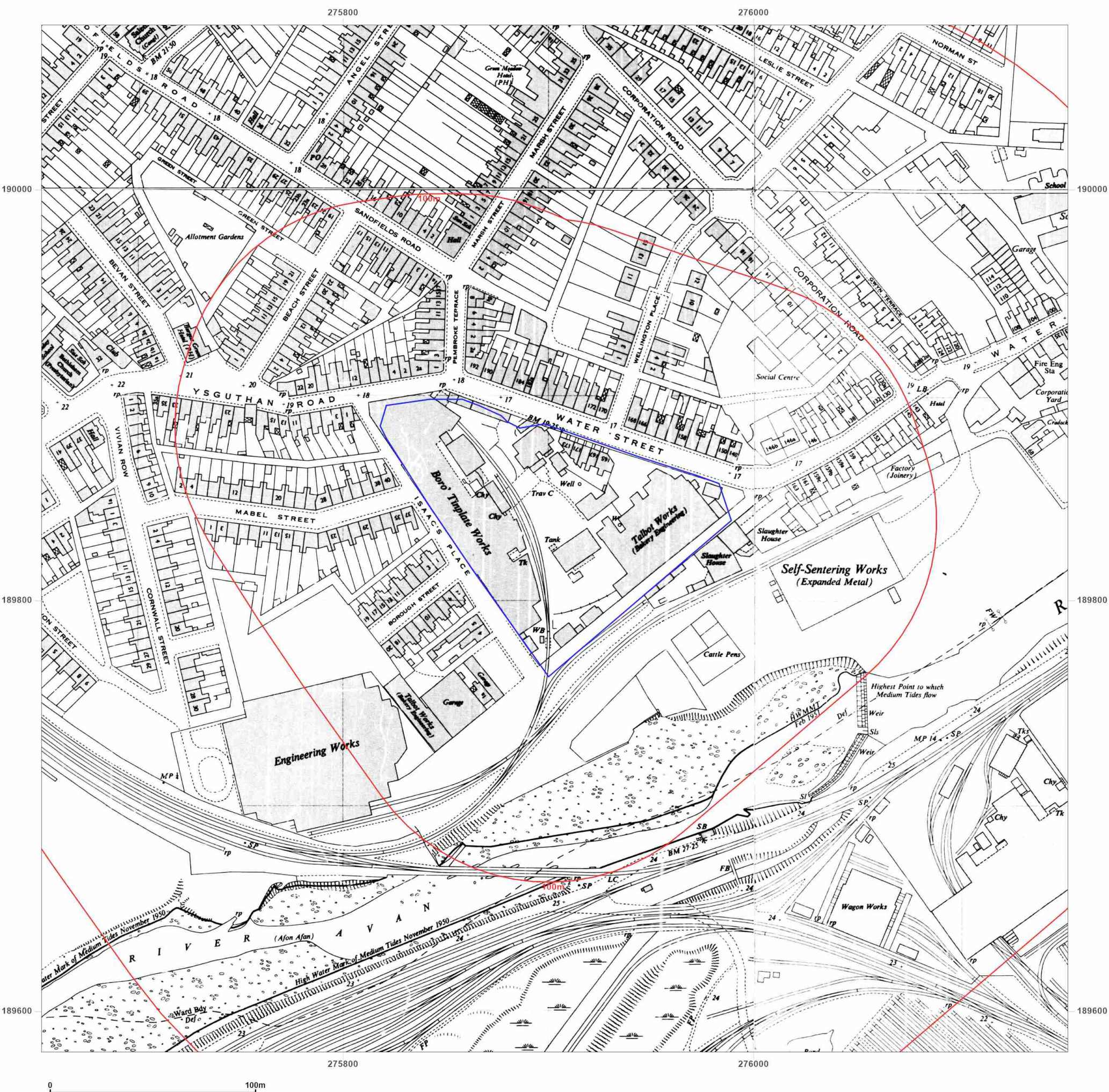
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Production date: 28 September 2021

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





Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid
Map date: 1951-1952
Scale: 1:1,250
Printed at: 1:2,000

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W E
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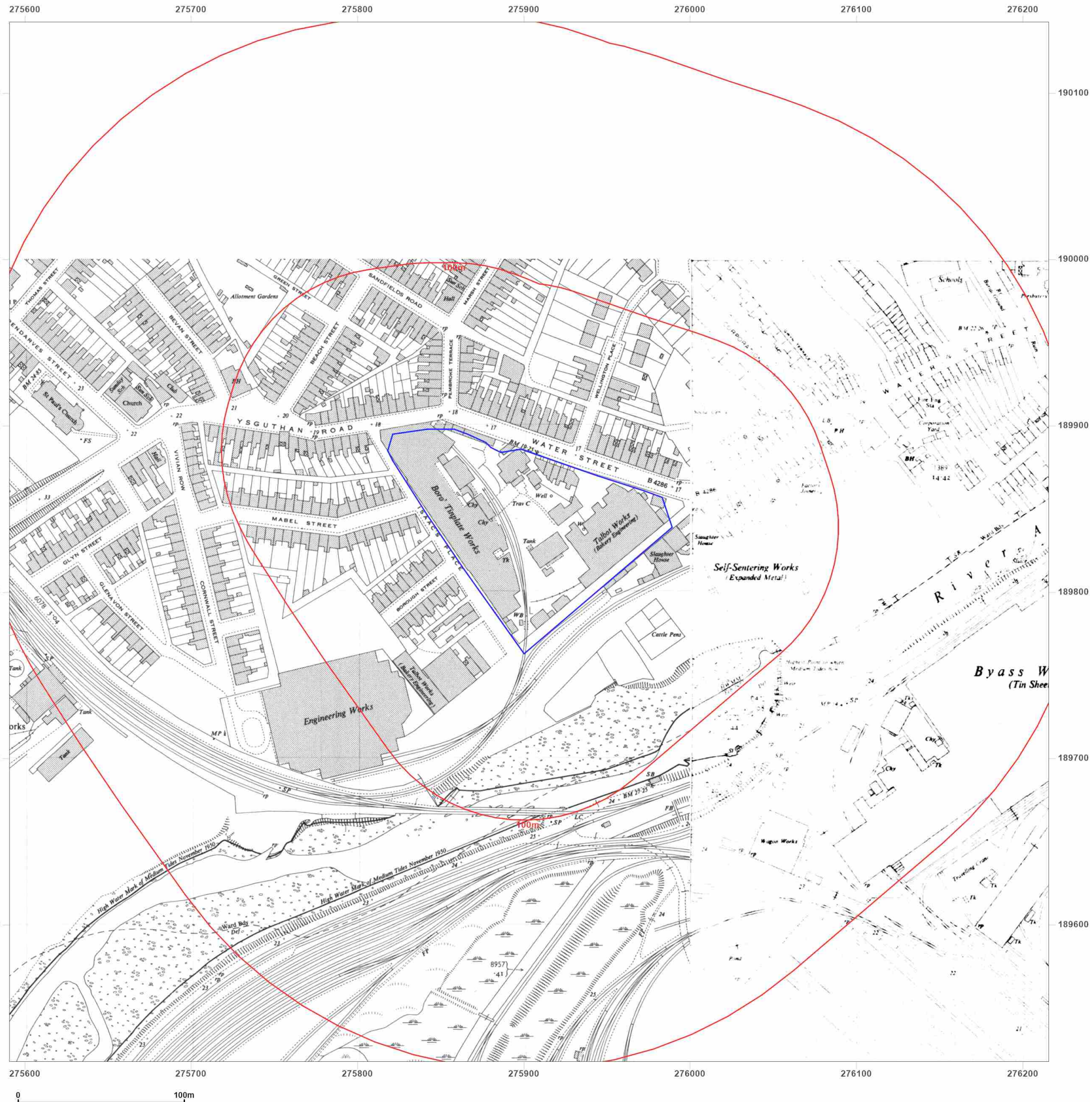
Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A	Surveyed N/A Revised N/A Edition N/A Copyright N/A Levelled N/A
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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1951-1953

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1951
Revised 1951
Edition N/A
Copyright N/A
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
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Site Details:

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Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

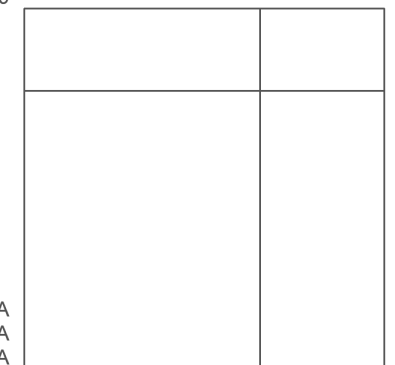
Map date: 1951-1957

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1957
 Revised 1957
 Edition 1958
 Copyright N/A
 Levelled 1949



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

Surveyed 1951
 Revised 1951
 Edition N/A
 Copyright N/A
 Levelled 1949



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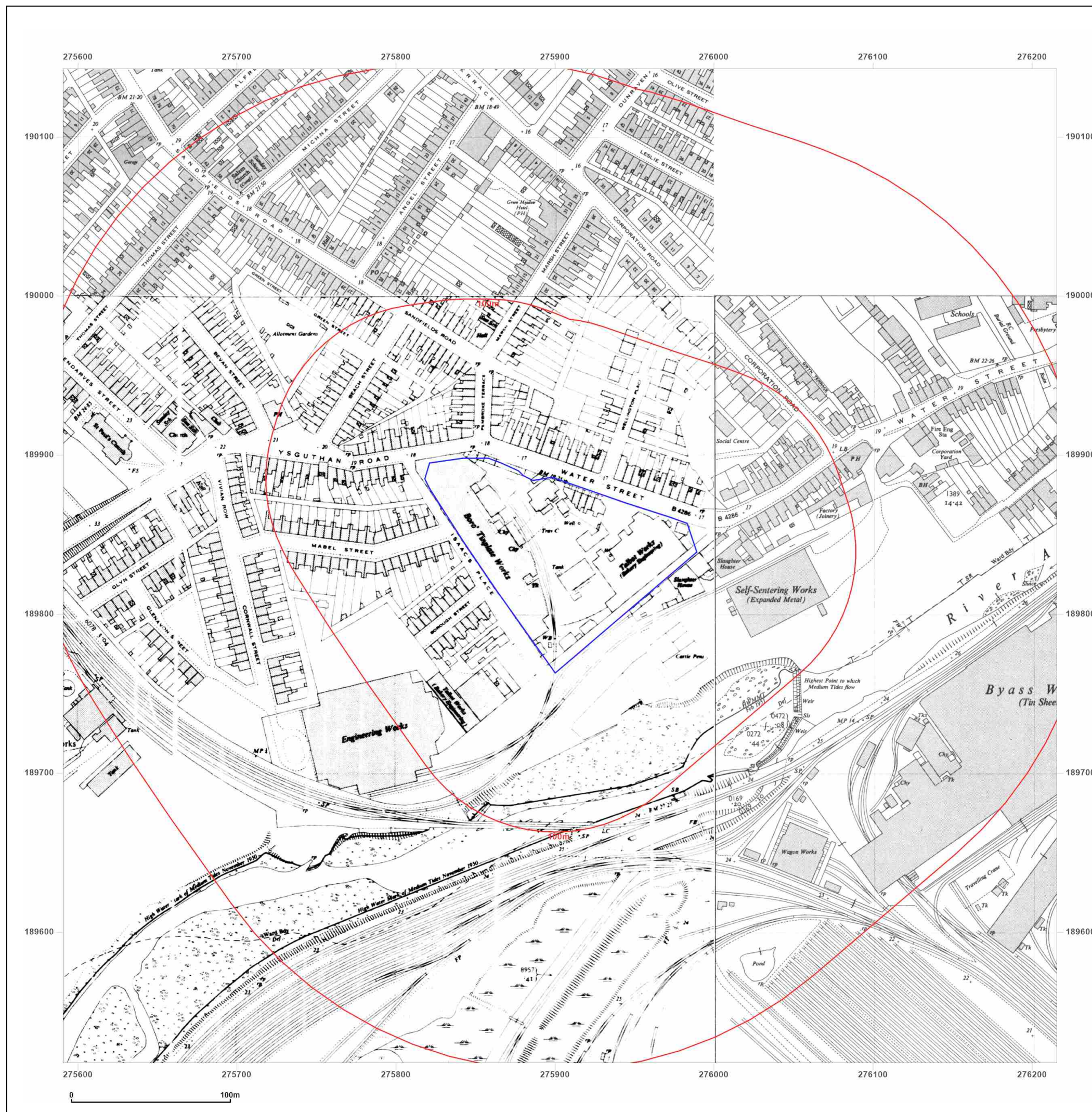


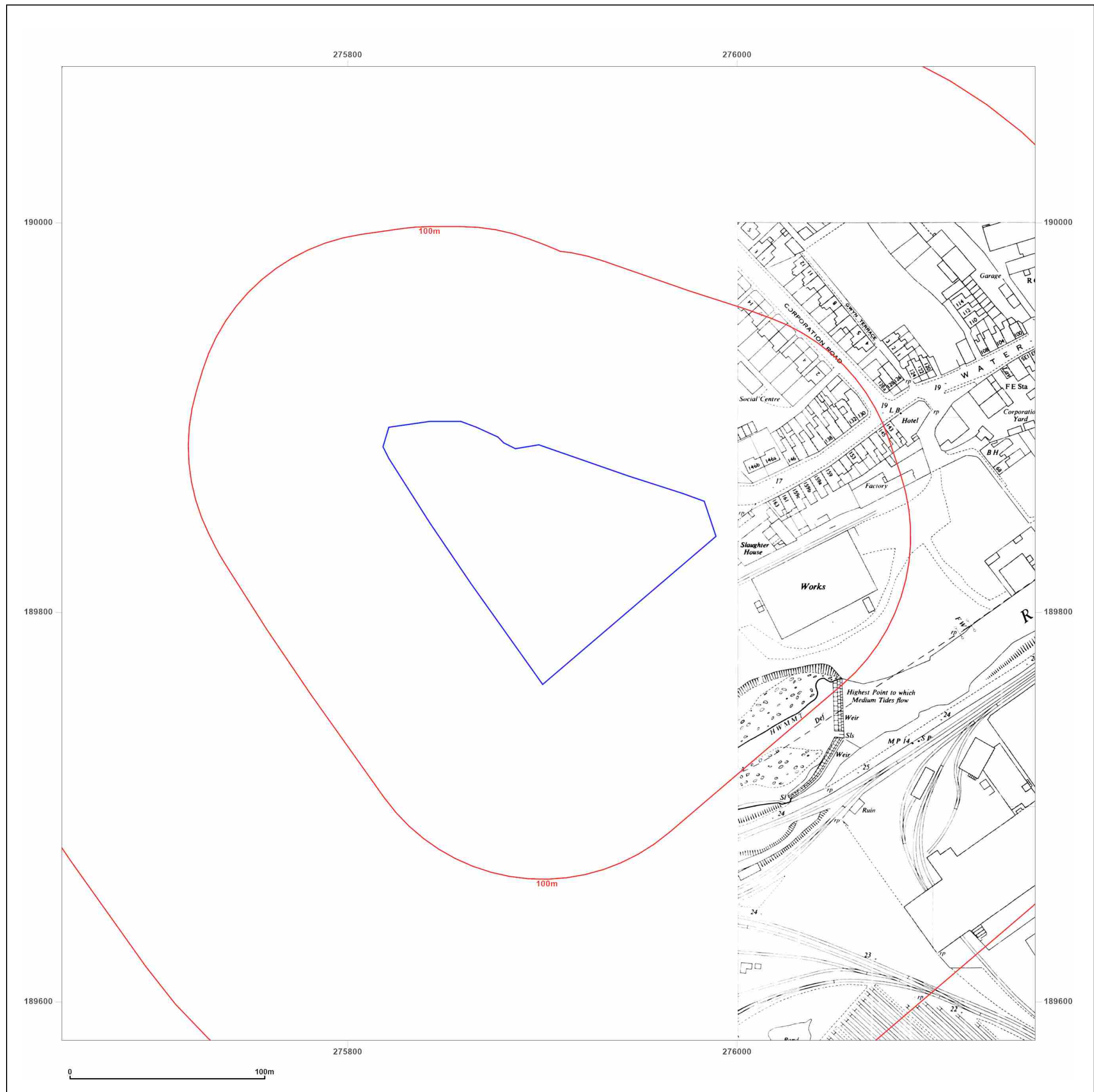
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Production date: 28 September 2021

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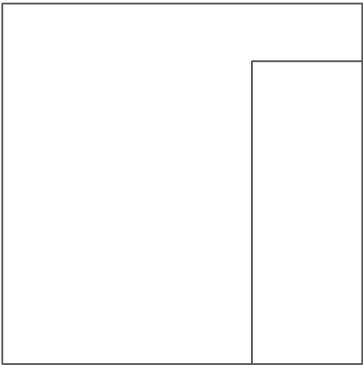




Site Details:

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Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid
Map date: 1958
Scale: 1:1,250
Printed at: 1:2,000



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



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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1957-1962

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1950 Revised 1961 Edition N/A Copyright 1962 Levelled 1957	Surveyed 1951 Revised 1957 Edition N/A Copyright N/A Levelled 1949
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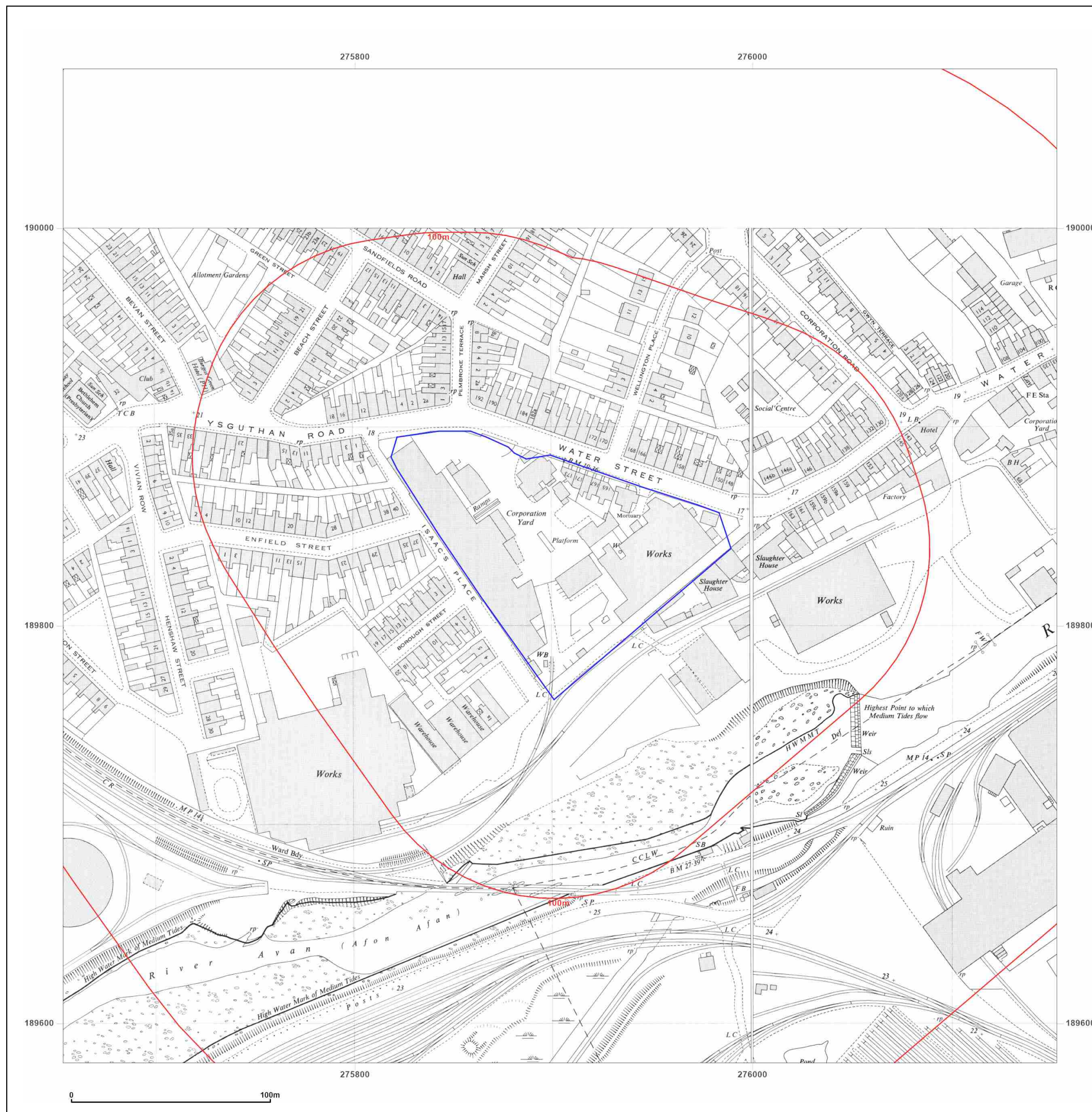


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Site Details:

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Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

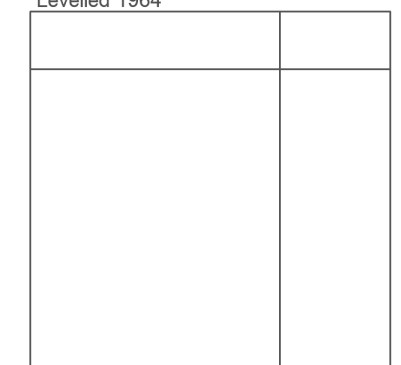
Map date: 1967

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1951
 Revised 1966
 Edition N/A
 Copyright 1967
 Levelled 1964



Surveyed 1951
 Revised 1967
 Edition N/A
 Copyright 1967
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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1964-1968

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1951
 Revised 1963
 Edition N/A
 Copyright 1964
 Levelled 1957

Surveyed 1950
 Revised 1966
 Edition N/A
 Copyright 1967
 Levelled 1964

Surveyed 1950
 Revised 1967
 Edition N/A
 Copyright 1968
 Levelled 1964

Surveyed 1963
 Revised 1963
 Edition N/A
 Copyright 1964
 Levelled 1957



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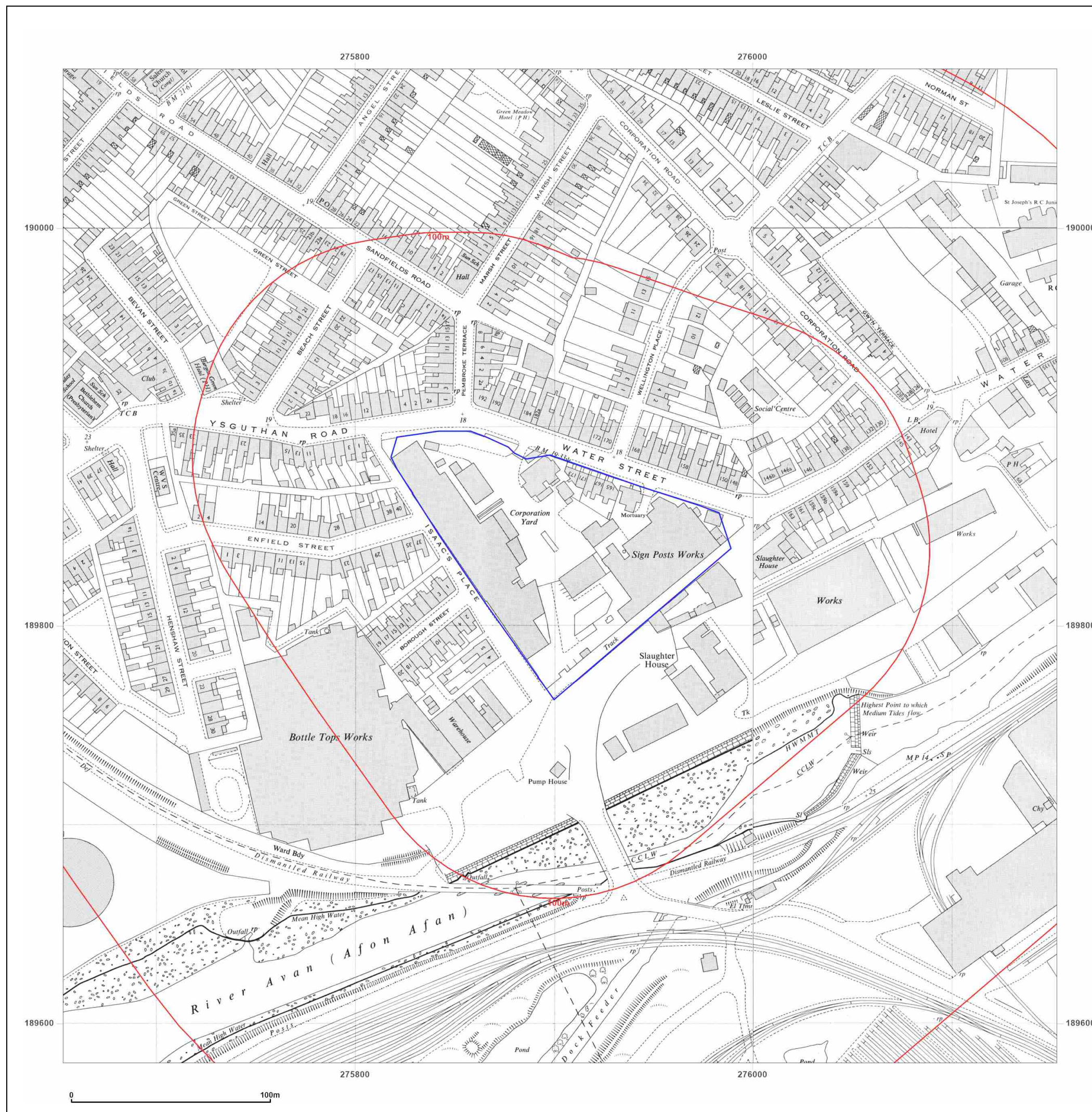


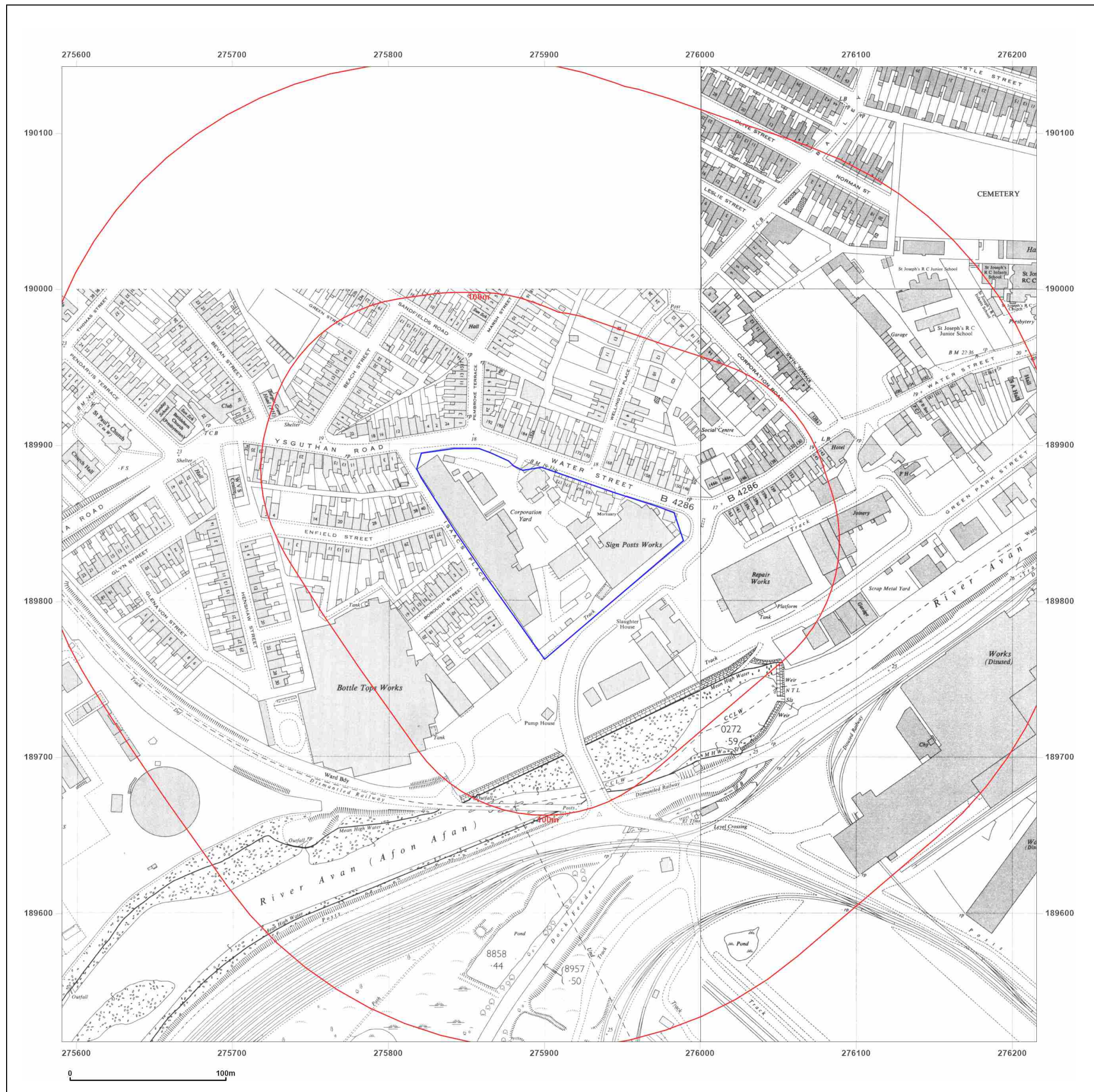
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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

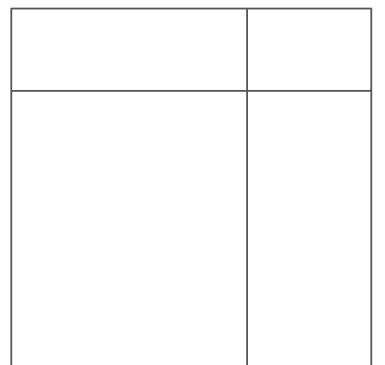
Map date: 1967-1968

Scale: 1:2,500

Printed at: 1:2,500



Surveyed 1968
Revised 1968
Edition N/A
Copyright 1969
Levelled 1964



Surveyed 1967
Revised 1967
Edition N/A
Copyright 1969
Levelled 1964

Surveyed 1968
Revised 1968
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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1971-1975

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1950 Revised 1974 Edition N/A Copyright 1975 Levelled 1964	Surveyed 1951 Revised 1970 Edition N/A Copyright 1971 Levelled 1964
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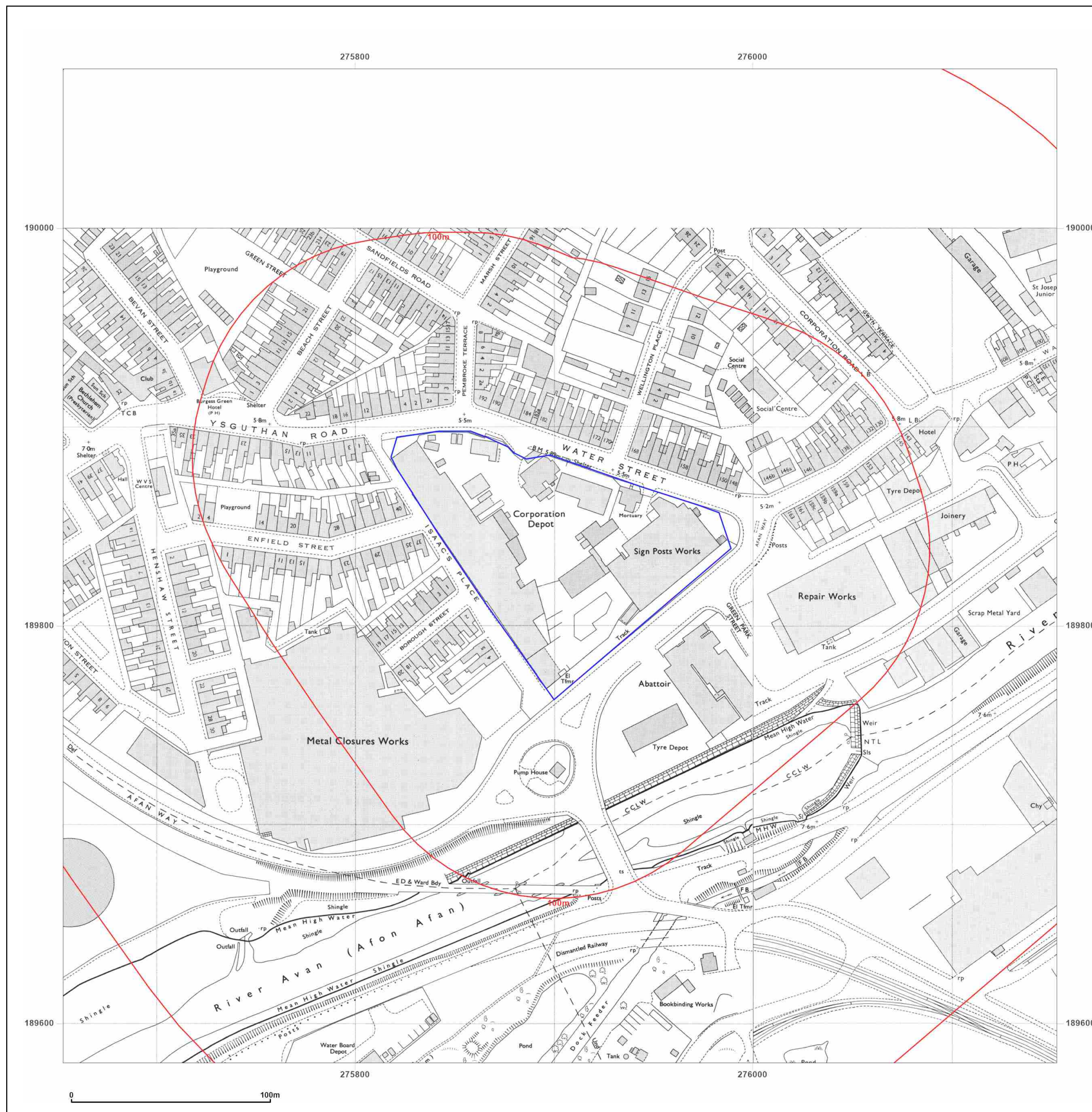


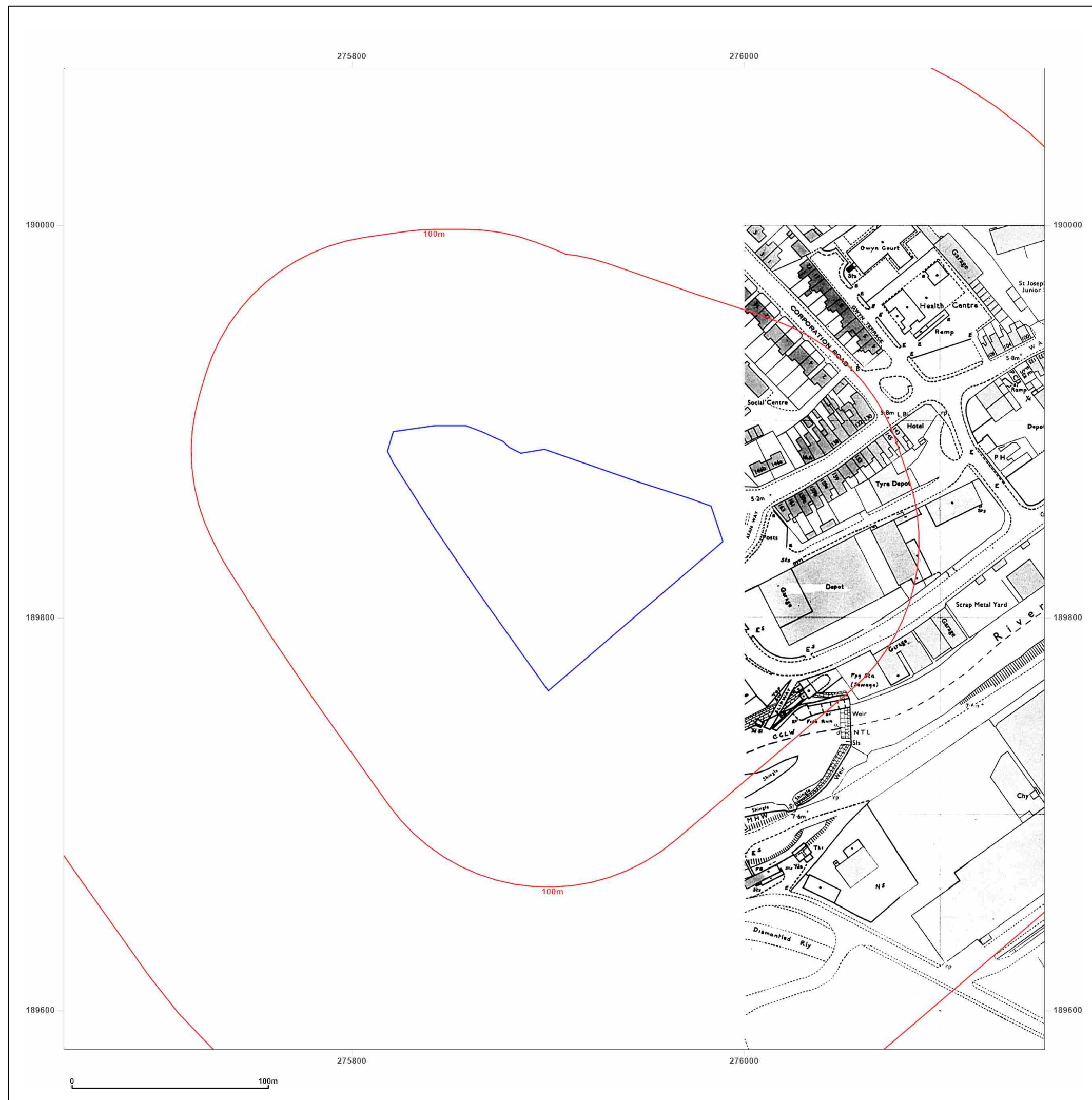
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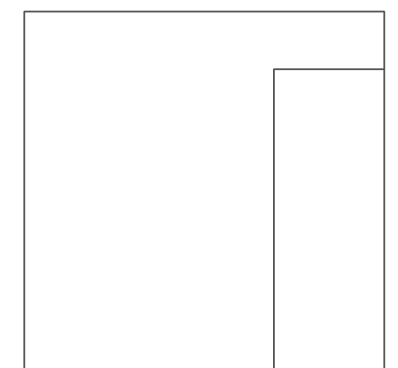
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Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1979

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1964
Revised 1979
Edition N/A
Copyright 1979
Levelled 1964



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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid
Map date: 1988-1991
Scale: 1:1,250
Printed at: 1:2,000



Surveyed 1989 Revised 1989 Edition N/A Copyright 1989 Levelled N/A	Surveyed 1958 Revised 1987 Edition N/A Copyright 1988 Levelled 1964
Surveyed N/A Revised N/A Edition N/A Copyright 1990 Levelled 1964	Surveyed N/A Revised N/A Edition N/A Copyright 1991 Levelled 1964



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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1989-1993

Scale: 1:1,250

Printed at: 1:2,000



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

Surveyed 1993
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A

Surveyed 1991
 Revised 1991
 Edition N/A
 Copyright 1991
 Levelled N/A

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A



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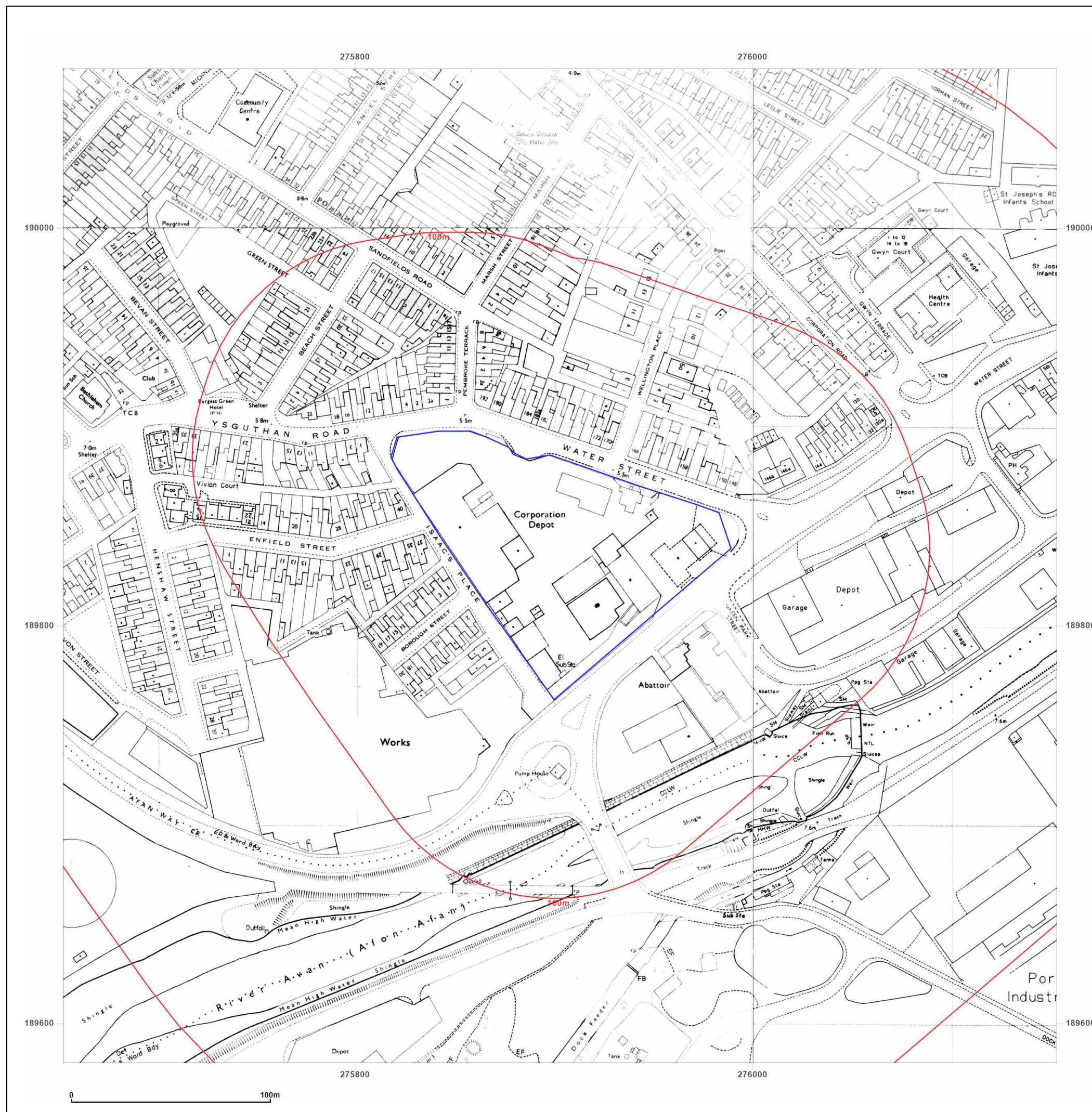


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Site Details:

Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: National Grid

Map date: 1991-1993

Scale: 1:1,250

Printed at: 1:2,000



Surveyed 1964
 Revised 1991
 Edition N/A
 Copyright 1991
 Levelled 1964

Surveyed N/A
 Revised N/A
 Edition N/A
 Copyright 1993
 Levelled N/A



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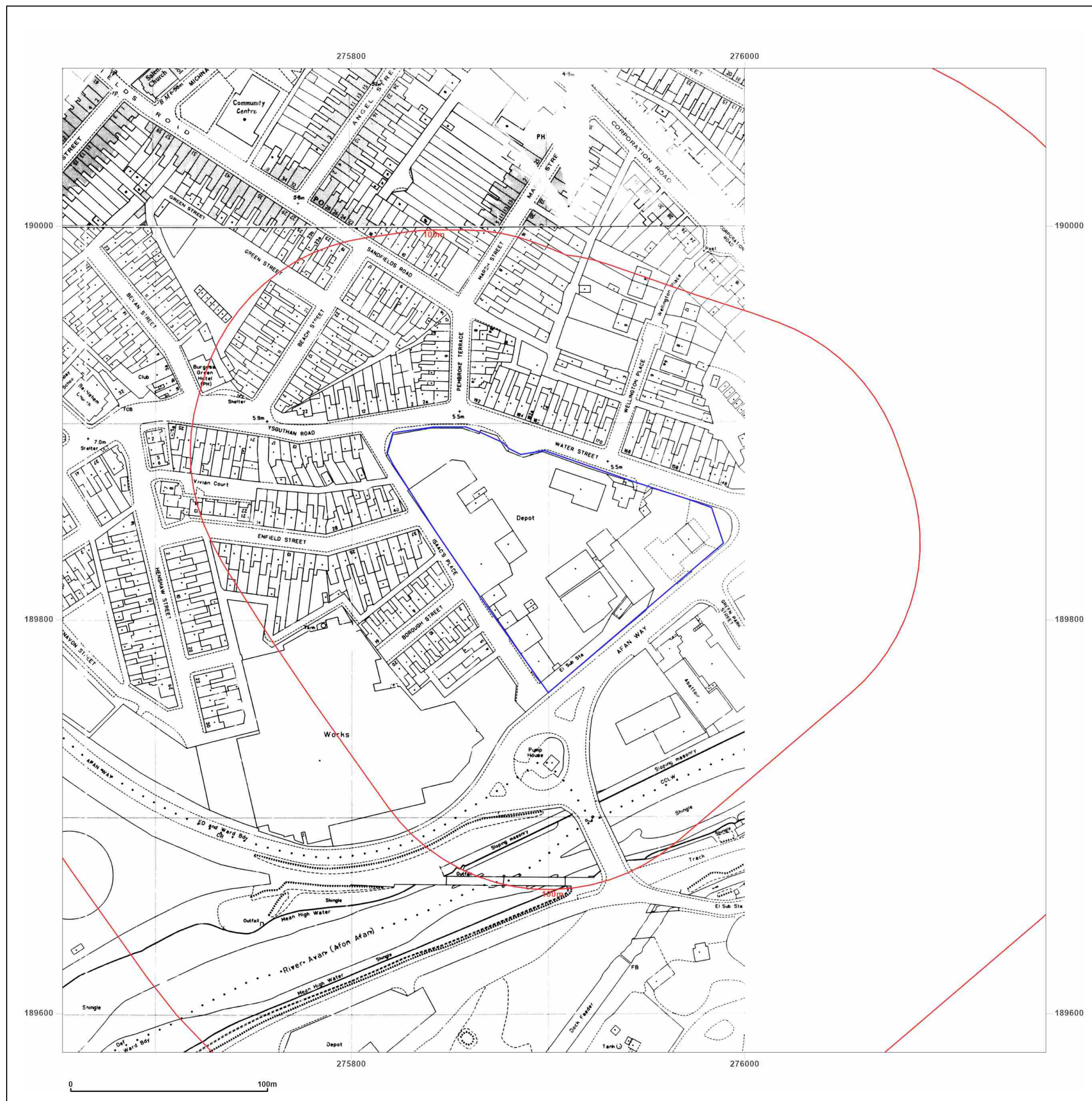


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Production date: 28 September 2021

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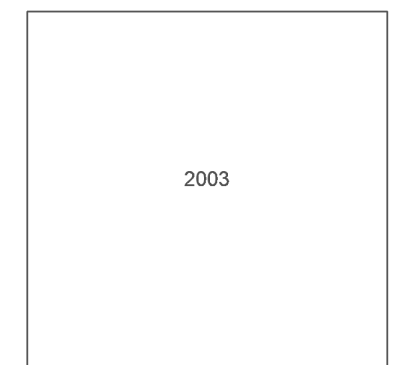
Client Ref: EMS_726447_946285
Report Ref: EMS-726447_946285
Grid Ref: 275903, 189830

Map Name: LandLine

Map date: 2003

Scale: 1:1,250

Printed at: 1:1,250



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APPENDIX 4 - Groundsure Report

275901 189840

Order Details

Date: 28/09/2021
Your ref: EMS_726447_946286
Our Ref: EMS-726447_946286
Client: emapsite

Site Details

Location: 275901 189840
Area: 1.19 ha
Authority: [Castell-nedd Port Talbot - Neath Port Talbot County Borough](#)



Summary of findings

p. 2 **Aerial image**

p. 8

OS MasterMap site plan

p.13 groundsure.com/insightuserguide

Summary of findings

Page	Section	Past land use	On site	0-50m	50-250m	250-500m	500-2000m
14	1.1	<u>Historical industrial land uses</u>	25	8	40	46	-
19	1.2	<u>Historical tanks</u>	5	0	30	71	-
23	1.3	<u>Historical energy features</u>	2	0	15	21	-
25	1.4	Historical petrol stations	0	0	0	0	-
25	1.5	<u>Historical garages</u>	0	4	11	5	-
26	1.6	Historical military land	0	0	0	0	-
Page	Section	Past land use - un-grouped	On site	0-50m	50-250m	250-500m	500-2000m
27	2.1	<u>Historical industrial land uses</u>	15	9	46	55	-
32	2.2	<u>Historical tanks</u>	6	0	44	132	-
39	2.3	<u>Historical energy features</u>	3	0	25	43	-
42	2.4	Historical petrol stations	0	0	0	0	-
42	2.5	<u>Historical garages</u>	0	7	21	10	-
Page	Section	Waste and landfill	On site	0-50m	50-250m	250-500m	500-2000m
44	3.1	Active or recent landfill	0	0	0	0	-
44	3.2	Historical landfill (BGS records)	0	0	0	0	-
45	3.3	Historical landfill (LA/mapping records)	0	0	0	0	-
45	3.4	Historical landfill (EA/NRW records)	0	0	0	0	-
45	3.5	<u>Historical waste sites</u>	0	0	6	1	-
46	3.6	<u>Licensed waste sites</u>	0	0	8	21	-
55	3.7	<u>Waste exemptions</u>	0	0	3	12	-
Page	Section	Current industrial land use	On site	0-50m	50-250m	250-500m	500-2000m
57	4.1	<u>Recent industrial land uses</u>	0	3	21	-	-
59	4.2	<u>Current or recent petrol stations</u>	1	0	0	1	-
59	4.3	Electricity cables	0	0	0	0	-
60	4.4	Gas pipelines	0	0	0	0	-
60	4.5	Sites determined as Contaminated Land	0	0	0	0	-



60	4.6	<u>Control of Major Accident Hazards (COMAH)</u>	0	0	1	0	-
60	4.7	Regulated explosive sites	0	0	0	0	-
61	4.8	<u>Hazardous substance storage/usage</u>	0	0	0	2	-
61	4.9	Historical licensed industrial activities (IPC)	0	0	0	0	-
61	4.10	Licensed industrial activities (Part A(1))	0	0	0	0	-
62	4.11	<u>Licensed pollutant release (Part A(2)/B)</u>	0	0	0	1	-
62	4.12	Radioactive Substance Authorisations	0	0	0	0	-
62	4.13	<u>Licensed Discharges to controlled waters</u>	0	2	6	4	-
64	4.14	Pollutant release to surface waters (Red List)	0	0	0	0	-
64	4.15	Pollutant release to public sewer	0	0	0	0	-
64	4.16	List 1 Dangerous Substances	0	0	0	0	-
64	4.17	List 2 Dangerous Substances	0	0	0	0	-
65	4.18	<u>Pollution Incidents (EA/NRW)</u>	0	2	11	12	-
67	4.19	Pollution inventory substances	0	0	0	0	-
68	4.20	Pollution inventory waste transfers	0	0	0	0	-
68	4.21	Pollution inventory radioactive waste	0	0	0	0	-
Page	Section	Hydrogeology	On site	0-50m	50-250m	250-500m	500-2000m
69	5.1	<u>Superficial aquifer</u>	Identified (within 500m)				
71	5.2	<u>Bedrock aquifer</u>	Identified (within 500m)				
73	5.3	<u>Groundwater vulnerability</u>	Identified (within 50m)				
74	5.4	Groundwater vulnerability- soluble rock risk	None (within 0m)				
74	5.5	Groundwater vulnerability- local information	None (within 0m)				
75	5.6	Groundwater abstractions	0	0	0	0	0
76	5.7	<u>Surface water abstractions</u>	0	0	5	0	13
79	5.8	Potable abstractions	0	0	0	0	0
80	5.9	Source Protection Zones	0	0	0	0	-
80	5.10	Source Protection Zones (confined aquifer)	0	0	0	0	-
Page	Section	Hydrology	On site	0-50m	50-250m	250-500m	500-2000m
81	6.1	<u>Water Network (OS MasterMap)</u>	0	0	16	-	-



83	6.2	<u>Surface water features</u>	0	0	4	-	-
83	6.3	<u>WFD Surface water body catchments</u>	4	-	-	-	-
84	6.4	<u>WFD Surface water bodies</u>	0	0	1	-	-
84	6.5	<u>WFD Groundwater bodies</u>	1	-	-	-	-
Page	Section	River and coastal flooding	On site	0-50m	50-250m	250-500m	500-2000m
85	7.1	<u>Risk of Flooding from Rivers and Sea (RoFRaS)</u>	Low (within 50m)				
86	7.2	Historical Flood Events	0	0	0	-	-
86	7.3	<u>Flood Defences</u>	0	0	2	-	-
86	7.4	<u>Areas Benefiting from Flood Defences</u>	1	0	85	-	-
90	7.5	Flood Storage Areas	0	0	0	-	-
91	7.6	<u>Flood Zone 2</u>	Identified (within 50m)				
92	7.7	<u>Flood Zone 3</u>	Identified (within 50m)				
Page	Section	Surface water flooding					
93	8.1	<u>Surface water flooding</u>	1 in 30 year, 0.3m - 1.0m (within 50m)				
Page	Section	Groundwater flooding					
95	9.1	<u>Groundwater flooding</u>	Low (within 50m)				
Page	Section	Environmental designations	On site	0-50m	50-250m	250-500m	500-2000m
96	10.1	Sites of Special Scientific Interest (SSSI)	0	0	0	0	0
97	10.2	Conserved wetland sites (Ramsar sites)	0	0	0	0	0
97	10.3	Special Areas of Conservation (SAC)	0	0	0	0	0
97	10.4	Special Protection Areas (SPA)	0	0	0	0	0
97	10.5	National Nature Reserves (NNR)	0	0	0	0	0
98	10.6	Local Nature Reserves (LNR)	0	0	0	0	0
98	10.7	<u>Designated Ancient Woodland</u>	0	0	0	0	3
98	10.8	Biosphere Reserves	0	0	0	0	0
99	10.9	Forest Parks	0	0	0	0	0
99	10.10	Marine Conservation Zones	0	0	0	0	0
99	10.11	Green Belt	0	0	0	0	0
99	10.12	Proposed Ramsar sites	0	0	0	0	0



99	10.13	Possible Special Areas of Conservation (pSAC)	0	0	0	0	0
100	10.14	Potential Special Protection Areas (pSPA)	0	0	0	0	0
100	10.15	Nitrate Sensitive Areas	0	0	0	0	0
100	10.16	Nitrate Vulnerable Zones	0	0	0	0	0
101	10.17	SSSI Impact Risk Zones	0	-	-	-	-
101	10.18	SSSI Units	0	0	0	0	0
Page	Section	Visual and cultural designations	On site	0-50m	50-250m	250-500m	500-2000m
102	11.1	World Heritage Sites	0	0	0	-	-
102	11.2	Area of Outstanding Natural Beauty	0	0	0	-	-
102	11.3	National Parks	0	0	0	-	-
102	11.4	Listed Buildings	0	0	0	-	-
103	11.5	Conservation Areas	0	0	0	-	-
103	11.6	Scheduled Ancient Monuments	0	0	0	-	-
103	11.7	Registered Parks and Gardens	0	0	0	-	-
Page	Section	Agricultural designations	On site	0-50m	50-250m	250-500m	500-2000m
104	12.1	<u>Agricultural Land Classification</u>	Grade 3b (within 250m)				
105	12.2	Open Access Land	0	0	0	-	-
105	12.3	Tree Felling Licences	0	0	0	-	-
105	12.4	Environmental Stewardship Schemes	0	0	0	-	-
105	12.5	Countryside Stewardship Schemes	0	0	0	-	-
Page	Section	Habitat designations	On site	0-50m	50-250m	250-500m	500-2000m
106	13.1	Priority Habitat Inventory	0	0	0	-	-
106	13.2	Habitat Networks	0	0	0	-	-
106	13.3	Open Mosaic Habitat	0	0	0	-	-
106	13.4	Limestone Pavement Orders	0	0	0	-	-
Page	Section	Geology 1:10,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
107	14.1	<u>10k Availability</u>	Identified (within 500m)				
108	14.2	<u>Artificial and made ground (10k)</u>	0	0	3	6	-
110	14.3	<u>Superficial geology (10k)</u>	1	0	6	3	-



111	14.4	Landslip (10k)	0	0	0	0	-
<u>112</u>	<u>14.5</u>	<u>Bedrock geology (10k)</u>	1	0	1	7	-
<u>113</u>	<u>14.6</u>	<u>Bedrock faults and other linear features (10k)</u>	0	0	0	6	-
Page	Section	Geology 1:50,000 scale	On site	0-50m	50-250m	250-500m	500-2000m
<u>114</u>	<u>15.1</u>	<u>50k Availability</u>	Identified (within 500m)				
<u>115</u>	<u>15.2</u>	<u>Artificial and made ground (50k)</u>	0	0	2	2	-
116	15.3	Artificial ground permeability (50k)	0	0	-	-	-
<u>117</u>	<u>15.4</u>	<u>Superficial geology (50k)</u>	1	0	2	0	-
<u>118</u>	<u>15.5</u>	<u>Superficial permeability (50k)</u>	Identified (within 50m)				
118	15.6	Landslip (50k)	0	0	0	0	-
118	15.7	Landslip permeability (50k)	None (within 50m)				
<u>119</u>	<u>15.8</u>	<u>Bedrock geology (50k)</u>	1	0	0	6	-
<u>120</u>	<u>15.9</u>	<u>Bedrock permeability (50k)</u>	Identified (within 50m)				
<u>120</u>	<u>15.10</u>	<u>Bedrock faults and other linear features (50k)</u>	0	0	0	5	-
Page	Section	Boreholes	On site	0-50m	50-250m	250-500m	500-2000m
<u>122</u>	<u>16.1</u>	<u>BGS Boreholes</u>	0	0	14	-	-
Page	Section	Natural ground subsidence					
<u>124</u>	<u>17.1</u>	<u>Shrink swell clays</u>	Very low (within 50m)				
<u>125</u>	<u>17.2</u>	<u>Running sands</u>	Moderate (within 50m)				
<u>126</u>	<u>17.3</u>	<u>Compressible deposits</u>	Moderate (within 50m)				
<u>127</u>	<u>17.4</u>	<u>Collapsible deposits</u>	Negligible (within 50m)				
<u>128</u>	<u>17.5</u>	<u>Landslides</u>	Very low (within 50m)				
<u>129</u>	<u>17.6</u>	<u>Ground dissolution of soluble rocks</u>	Negligible (within 50m)				
Page	Section	Mining, ground workings and natural cavities	On site	0-50m	50-250m	250-500m	500-2000m
131	18.1	Natural cavities	0	0	0	0	-
132	18.2	BritPits	0	0	0	0	-
<u>132</u>	<u>18.3</u>	<u>Surface ground workings</u>	4	2	19	-	-
133	18.4	Underground workings	0	0	0	0	0
133	18.5	Historical Mineral Planning Areas	0	0	0	0	-



133	18.6	Non-coal mining	0	0	0	0	0
134	18.7	Mining cavities	0	0	0	0	0
134	18.8	JPB mining areas	None (within 0m)				
134	18.9	<u>Coal mining</u>	Identified (within 0m)				
134	18.10	Brine areas	None (within 0m)				
135	18.11	Gypsum areas	None (within 0m)				
135	18.12	Tin mining	None (within 0m)				
135	18.13	Clay mining	None (within 0m)				
Page	Section	Radon					
136	19.1	<u>Radon</u>	Less than 1% (within 0m)				
Page	Section	Soil chemistry	On site	0-50m	50-250m	250-500m	500-2000m
137	20.1	<u>BGS Estimated Background Soil Chemistry</u>	1	2	-	-	-
137	20.2	<u>BGS Estimated Urban Soil Chemistry</u>	4	7	-	-	-
138	20.3	BGS Measured Urban Soil Chemistry	0	0	-	-	-
Page	Section	Railway infrastructure and projects	On site	0-50m	50-250m	250-500m	500-2000m
139	21.1	Underground railways (London)	0	0	0	-	-
139	21.2	Underground railways (Non-London)	0	0	0	-	-
140	21.3	Railway tunnels	0	0	0	-	-
140	21.4	<u>Historical railway and tunnel features</u>	11	4	42	-	-
142	21.5	Royal Mail tunnels	0	0	0	-	-
142	21.6	<u>Historical railways</u>	0	0	2	-	-
143	21.7	Railways	0	0	0	-	-
143	21.8	Crossrail 1	0	0	0	0	-
143	21.9	Crossrail 2	0	0	0	0	-
143	21.10	HS2	0	0	0	0	-



Recent aerial photograph



Capture Date: 14/04/2020

Site Area: 1.19ha



Recent site history - 2017 aerial photograph



Capture Date: 26/05/2017

Site Area: 1.19ha



Recent site history - 2009 aerial photograph



Capture Date: 12/10/2009

Site Area: 1.19ha



Recent site history - 2001 aerial photograph

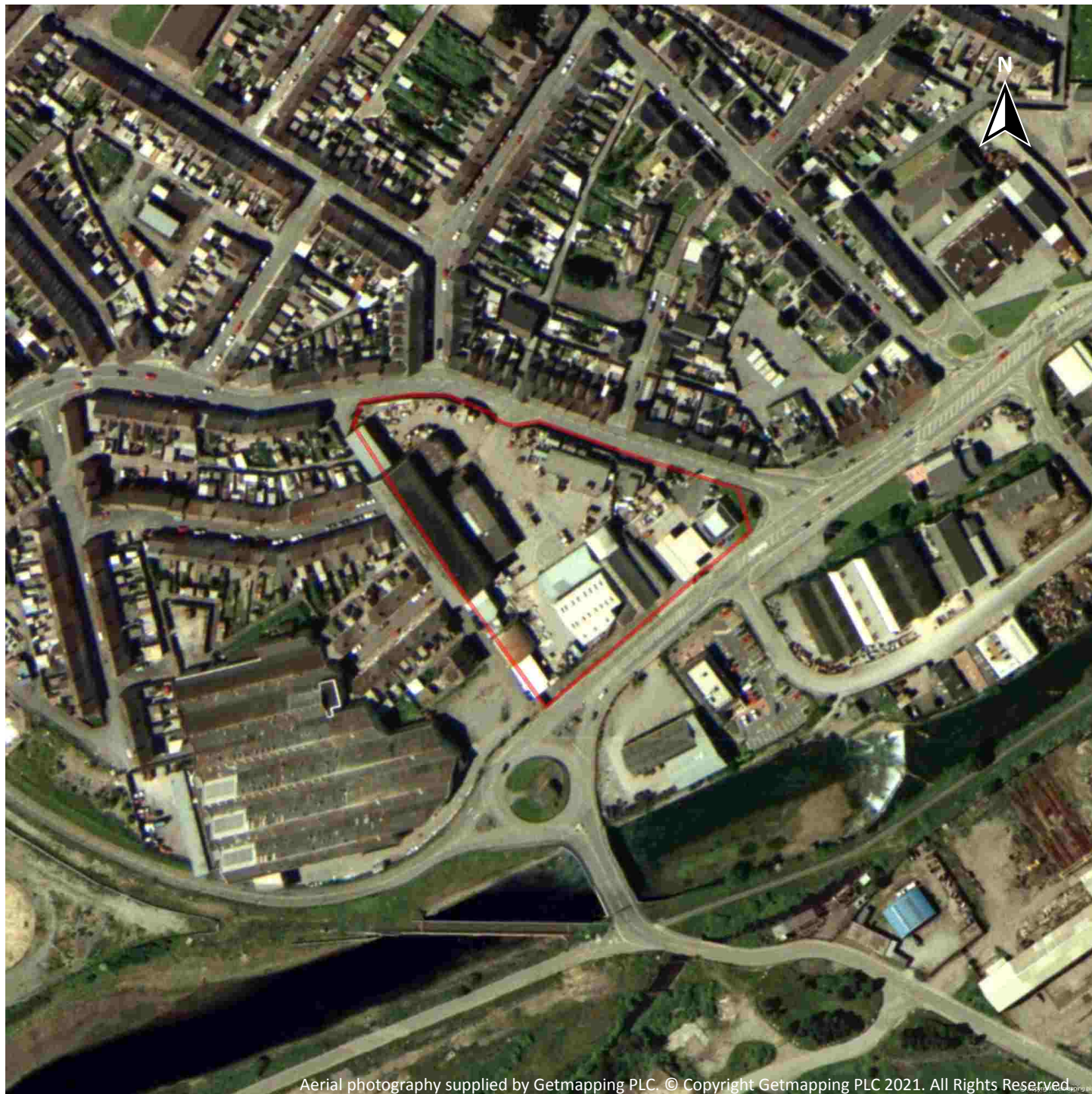


Capture Date: 27/08/2001

Site Area: 1.19ha



Recent site history - 2000 aerial photograph



Capture Date: 18/06/2000

Site Area: 1.19ha



OS MasterMap site plan

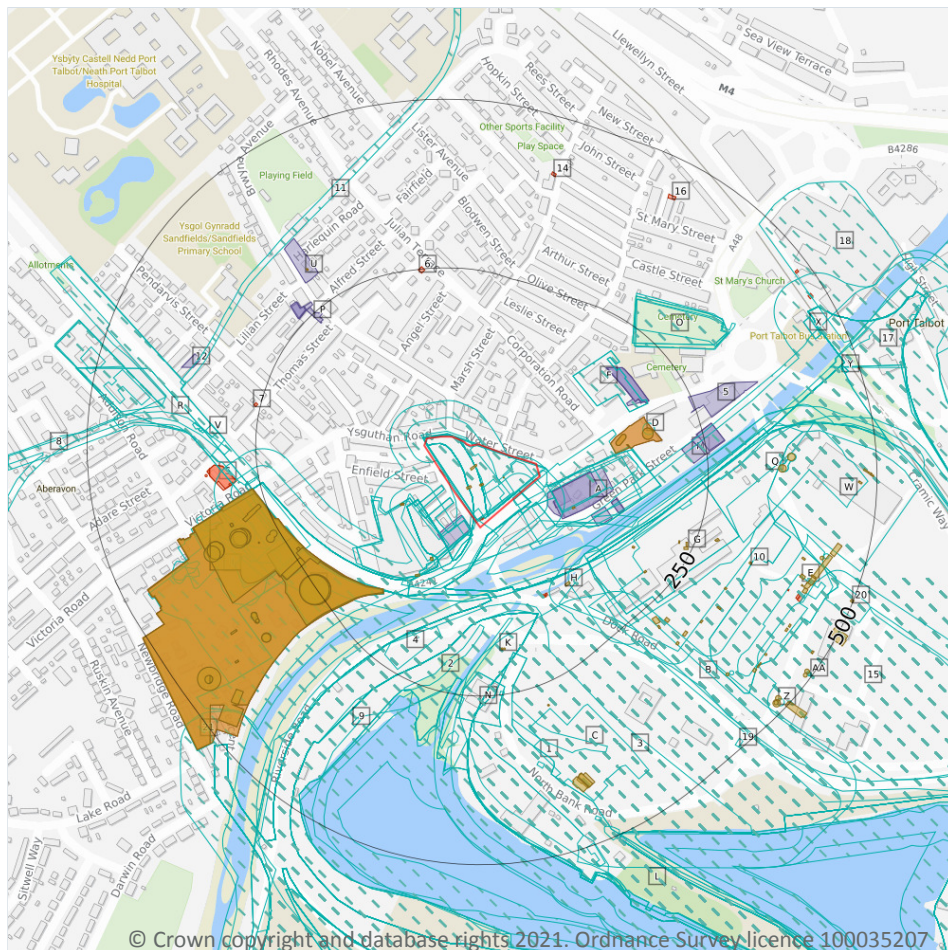


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Site Area: 1.19ha



1 Past land use



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

1.1 Historical industrial land uses

Records within 500m

119

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Disused Tin Plate Works	1897	320588



ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Works	1965	320923
A	On site	Unspecified Depot	1991	321584
A	On site	Unspecified Commercial/Industrial	1947	331181
A	On site	Railway Sidings	1947	355831
A	On site	Railway Sidings	1897 - 1914	359240
A	On site	Tin Plate Works	1914 - 1921	360819
A	On site	Tin Plate Works	1897	365543
A	On site	Railway Sidings	1965	377410
B	On site	Railway Sidings	1921	339301
B	On site	Railway Sidings	1921	339302
B	On site	Railway Sidings	1914	339303
B	On site	Railway Sidings	1921	339304
B	On site	Railway Sidings	1921	339292
B	On site	Railway Sidings	1921	339293
B	On site	Railway Sidings	1914	339294
B	On site	Railway Sidings	1914	339295
B	On site	Railway Sidings	1914	339296
B	On site	Railway Sidings	1921	339297
B	On site	Railway Sidings	1921	339298
B	On site	Railway Sidings	1914	339299
B	On site	Railway Sidings	1914	339300
B	On site	Railway Sidings	1914	339723
B	On site	Dock	1914 - 1921	365006
C	On site	Old Dock	1914	346704
A	10m SW	Unspecified Works	1991	361017
A	10m SW	Unspecified Works	1979	370253
A	11m SW	Iron Foundry	1914 - 1921	374292
A	20m SE	Unspecified Works	1965	320924



ID	Location	Land use	Dates present	Group ID
A	20m SW	Unspecified Pit	1897	335788
A	26m SW	Unspecified Works	1965	340538
A	28m SE	Unspecified Depot	1991	321588
B	46m S	Old Dock	1947	368853
A	52m SW	Iron Foundry	1897	356626
B	96m S	Railway Sidings	1947	363275
B	105m S	Railway Sidings	1962 - 1969	344615
B	105m S	Railway Sidings	1947	368145
1	117m S	Docks	1965	349804
E	119m SE	Industrial Estate	1991	323037
F	125m NE	Unspecified Commercial/Industrial	1914	331179
F	125m NE	Sawmill	1897	339201
G	131m SE	Unspecified Works	1979	342355
E	131m SE	Unspecified Works	1965	376034
G	138m SE	Tin Plate Works	1897	321981
G	138m SE	Railway Sidings	1897	344340
E	144m SE	Steel Works	1914 - 1921	371804
2	144m S	Unspecified Ground Workings	1947	333222
E	151m SE	Steel Works	1947	349499
3	159m SE	Timber Yard	1947	331035
4	160m SW	Unspecified Depot	1991	321585
D	166m E	Unspecified Tank	1897 - 1921	379090
E	167m SE	Railway Sidings	1979	343807
J	170m SW	Gas Holder Station	1979	328147
J	170m SW	Unspecified Commercial/Industrial	1991	331184
L	192m S	Old Dock	1897	357426
L	192m S	Railway Sidings	1897	365055
N	215m S	Unspecified Works	1979	320955



ID	Location	Land use	Dates present	Group ID
N	215m S	Unspecified Commercial/Industrial	1991	331185
J	222m SW	Railway Sidings	1947	355882
O	228m NE	Cemetery	1957	372921
O	228m NE	Cemetery	1914 - 1947	349890
O	229m NE	Cemetery	1978	356885
O	229m NE	Cemetery	1995	370998
J	233m SW	Gas Works	1947	354382
J	233m SW	Gasometer	1979	321173
J	233m SW	Unspecified Tank	1991	348916
J	233m SW	Unspecified Tank	1965	373688
J	234m SW	Gas Works	1914 - 1921	357882
Q	239m E	Iron Foundry	1897	338096
I	244m SW	Unspecified Works	1965	320957
N	245m S	Railway Building	1921	323569
O	248m NE	Cemetery	1897	368390
R	250m W	Railway Sidings	1914 - 1921	343111
J	254m SW	Unspecified Tank	1947	320095
J	255m SW	Gasometer	1914 - 1921	360954
J	266m SW	Unspecified Ground Workings	1897	333220
T	288m S	Unspecified Depot	1965	321586
8	289m W	Railway Sidings	1897	368485
J	290m SW	Gasometer	1897	352797
J	293m SW	Unspecified Tank	1965	320094
J	293m SW	Gasometer	1914 - 1921	351383
R	296m W	Railway Sidings	1947	368918
V	307m W	Railway Station	1965	332012
V	326m W	Railway Station	1947	366822
V	329m W	Railway Station	1914 - 1921	365707



ID	Location	Land use	Dates present	Group ID
9	334m SW	Railway Building	1947	323570
J	337m SW	Gasometer	1947	321172
J	338m SW	Unspecified Tank	1965	320096
W	339m E	Unspecified Depot	1979	321587
11	343m NW	Railway Sidings	1897	346294
I	347m SW	Unspecified Tank	1965	320093
Q	357m E	Unspecified Tanks	1979	348199
Q	357m E	Unspecified Tanks	1991	351306
13	358m S	Railway Building	1897	323564
J	376m SW	Unspecified Heap	1897	358626
J	383m SW	Unspecified Heap	1914 - 1921	339442
R	394m W	Unspecified Commercial/Industrial	1947	331182
E	397m SE	Unspecified Works	1979	320954
E	404m SE	Unspecified Tank	1914 - 1921	364937
R	413m W	Railway Building	1965	323571
15	416m SE	Unspecified Commercial/Industrial	1965	331178
E	437m E	Unspecified Tank	1914 - 1921	356186
X	449m NE	Bus Station	1995	363503
X	449m NE	Bus Station	1978	373903
17	458m E	Railway Sidings	1957	369990
R	460m W	Railway Sidings	1957	366341
L	461m S	Railway Building	1897	323566
Y	474m E	Railway Building	1897	348914
Y	474m E	Railway Building	1947	372464
18	476m NE	Unspecified Commercial/Industrial	1978	331180
L	481m SE	Unspecified Pit	1914 - 1921	348976
Z	484m SE	Unspecified Tank	1914 - 1921	358612
19	488m SE	Railway Building	1914	323568



ID	Location	Land use	Dates present	Group ID
R	489m W	Railway Building	1957	323573
AA	493m SE	Unspecified Tank	1914	320089
Y	496m E	Railway Buildings	1947	319113
21	497m SW	Unspecified Works	1965	320956
L	498m S	Railway Building	1897	323565
R	499m W	Railway Building	1965	323572

This data is sourced from Ordnance Survey / Groundsure.

1.2 Historical tanks

Records within 500m

106

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

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Unspecified Tank	1968	38166
A	On site	Unspecified Tank	1939	38167
A	On site	Unspecified Tank	1951	40104
A	On site	Unspecified Tank	1950	43251
A	On site	Unspecified Tank	1950 - 1951	44664
A	67m SE	Unspecified Tank	1967 - 1971	42830
A	72m SW	Unspecified Tank	1967	40176
A	73m SW	Unspecified Tank	1975	40336
A	73m SW	Unspecified Tank	1968	42843
A	75m SW	Unspecified Tank	1990	40830
A	75m SW	Unspecified Tank	1991	42768
A	83m SW	Unspecified Tank	1967 - 1968	40544



ID	Location	Land use	Dates present	Group ID
A	114m SW	Unspecified Tank	1990	38165
D	114m E	Gas Works	1881 - 1899	44544
D	122m E	Gasometers	1881	39181
H	146m SE	Tanks	1979 - 1991	41156
D	164m E	Gasometer	1899	39890
I	170m SW	Gas Works	1967	40406
I	171m SW	Gas Works	1968 - 1975	41062
J	171m SW	Gas Holder Station	1990 - 1991	40924
G	172m SE	Tanks	1951	40399
K	181m S	Unspecified Tank	1990 - 1991	43246
K	182m S	Unspecified Tank	1975	38164
G	209m SE	Unspecified Tank	1951	43769
J	221m SW	Gas Works	1950 - 1951	44495
G	227m SE	Unspecified Tank	1917	38162
J	229m SW	Gasometer	1967	39973
J	229m SW	Gasometer	1968 - 1975	41802
J	230m SW	Unspecified Tank	1962	38142
J	231m SW	Gasholder	1990 - 1991	43208
J	232m SW	Gas Works	1951	41674
J	237m SW	Unspecified Tank	1950 - 1951	40581
G	238m SE	Unspecified Tank	1939	38160
G	238m SE	Unspecified Tank	1917	38163
J	243m SW	Unspecified Tank	1950 - 1951	41936
J	254m SW	Unspecified Tank	1917 - 1951	43145
J	258m W	Unspecified Tank	1939 - 1951	40341
B	269m SE	Tanks	1939	39670
G	276m E	Tanks	1951	40632
C	281m S	Unspecified Tank	1968	44471



ID	Location	Land use	Dates present	Group ID
B	281m SE	Unspecified Tank	1951	40070
B	282m SE	Unspecified Tank	1951	42079
C	282m S	Unspecified Tank	1967	40202
J	283m SW	Unspecified Tank	1950	38141
J	289m SW	Unspecified Tank	1951 - 1967	39993
J	290m SW	Unspecified Tank	1950 - 1975	41657
J	294m SW	Gasometer	1899	39900
J	296m SW	Unspecified Tank	1939	42087
U	305m NW	Unspecified Tank	1957	41411
U	306m NW	Unspecified Tank	1951	42514
J	307m SW	Unspecified Tank	1950 - 1991	40125
B	315m SE	Unspecified Tank	1951	40056
B	319m SE	Unspecified Tank	1951	42812
B	320m SE	Tanks	1979	39669
B	321m SE	Unspecified Tank	1979	38155
B	327m SE	Tanks	1971 - 1979	43095
J	333m SW	Gasometer	1951 - 1967	42387
J	334m SW	Unspecified Tank	1960 - 1968	42559
J	334m SW	Gasometer	1950 - 1975	43587
10	336m E	Unspecified Tank	1979 - 1991	43318
J	341m SW	Unspecified Tank	1939	40683
I	344m SW	Unspecified Tank	1967	38144
I	344m SW	Tanks	1968 - 1975	42903
I	345m SW	Tanks	1962	44184
I	345m SW	Gasometer	1967	39901
I	346m SW	Unspecified Tank	1967	38143
I	346m SW	Unspecified Tank	1968 - 1975	41516
J	350m SW	Gasometer	1968	40349



ID	Location	Land use	Dates present	Group ID
Q	354m E	Unspecified Tank	1979 - 1991	41088
Q	368m E	Unspecified Tank	1979 - 1991	41779
I	382m SW	Unspecified Tank	1967 - 1968	40041
T	394m S	Tanks	1950	40413
T	394m SE	Tanks	1951	40678
T	396m S	Tanks	1939	44451
E	402m SE	Unspecified Tank	1917	38154
I	406m SW	Unspecified Tank	1967 - 1975	43798
E	407m E	Unspecified Tank	1951	40195
E	413m E	Unspecified Tank	1951	40347
E	420m SE	Unspecified Tank	1939	38156
E	425m SE	Tanks	1951	42580
E	425m SE	Unspecified Tank	1979	38153
E	425m SE	Unspecified Tank	1939	38157
E	427m SE	Tanks	1979	39672
I	427m SW	Tanks	1967 - 1975	44475
E	427m E	Unspecified Tank	1939	43641
E	428m SE	Tanks	1979	39671
E	428m E	Unspecified Tank	1951	44179
E	429m SE	Tanks	1979	39674
E	430m SE	Tanks	1979	39675
E	433m E	Unspecified Tank	1917	38159
I	440m SW	Unspecified Tank	1967	42596
E	446m E	Unspecified Tank	1917 - 1939	40932
I	452m SW	Unspecified Tank	1968	42757
I	452m SW	Unspecified Tank	1975	44409
W	472m E	Unspecified Tank	1951	43880
Z	479m SE	Unspecified Tank	1951	43694



ID	Location	Land use	Dates present	Group ID
AA	480m SE	Unspecified Tank	1951	42207
W	480m E	Tanks	1979	39668
Z	481m SE	Unspecified Tank	1917	42604
Z	482m SE	Unspecified Tank	1939	44666
W	487m E	Tanks	1971 - 1979	43159
AA	487m SE	Unspecified Tank	1951 - 1968	42253
AA	489m SE	Unspecified Tank	1917 - 1939	41019
AA	490m SE	Unspecified Tank	1917 - 1951	42961
20	496m E	Unspecified Tank	1951	40101
Z	497m SE	Unspecified Tank	1917 - 1939	42406

This data is sourced from Ordnance Survey / Groundsure.

1.3 Historical energy features

Records within 500m	38
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	On site	Electricity Transformer	1975	19799
A	On site	Electricity Substation	1990 - 1991	22965
D	114m E	Gas Works	1881 - 1899	23085
D	122m E	Gasometers	1881	19719
H	136m SE	Electricity Substation	1990 - 1991	20365
H	137m SE	Electricity Transformer	1967	20378
H	138m SE	Electricity Transformer	1968 - 1975	20307
D	164m E	Gasometer	1899	20030

ID	Location	Land use	Dates present	Group ID
I	170m SW	Gas Works	1967	20288
I	171m SW	Gas Works	1968 - 1975	22028
J	171m SW	Gas Holder Station	1990 - 1991	22544
J	221m SW	Gas Works	1950 - 1951	22233
J	229m SW	Gasometer	1967	22607
J	229m SW	Gasometer	1968 - 1975	20944
J	231m SW	Gasholder	1990 - 1991	20139
J	232m SW	Gas Works	1951	21215
6	244m N	Electricity Substation	1989 - 1991	22235
7	254m W	Electricity Transformer	1967 - 1991	22557
J	280m W	Electricity Substation	1990 - 1991	20395
S	283m W	Electricity Substation	1990 - 1991	23166
S	284m W	Electricity Substation	1950 - 1975	23622
S	289m W	Electricity Substation	1951 - 1967	20200
J	294m SW	Gasometer	1899	20040
S	320m W	Electricity Substation	1986 - 1991	21099
S	325m W	Electricity Substation	1967	19284
J	333m SW	Gasometer	1951 - 1967	20848
J	334m SW	Gasometer	1950 - 1975	22369
I	345m SW	Gasometer	1967	20041
J	350m SW	Gasometer	1968	21501
E	404m SE	Electricity Substation	1979	19285
14	413m N	Electricity Substation	1988 - 1993	20266
E	420m SE	Electricity Substation	1991	19286
E	424m SE	Electricity Substation	1971	19288
16	440m NE	Electricity Substation	1988 - 1993	21375
X	474m NE	Electricity Substation	1968	19320
X	478m NE	Electricity Substation	1988 - 1993	21818



ID	Location	Land use	Dates present	Group ID
Y	498m E	Gas Governor	1991 - 1993	21346
Y	498m E	Gas Governor	1988	21022

This data is sourced from Ordnance Survey / Groundsure.

1.4 Historical petrol stations

Records within 500m	0
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Petrol stations digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

This data is sourced from Ordnance Survey / Groundsure.

1.5 Historical garages

Records within 500m	20
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Garages digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale, intelligently grouped into contiguous features. To prevent misrepresentation of the size of historical features at any given time, features are only grouped if they have similar geometries within immediately preceding or succeeding map editions. See section 2 for a breakdown of grouping if required. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use map on **page 14**

ID	Location	Land use	Dates present	Group ID
A	12m SW	Garage	1950	7466
A	27m SE	Garage	1979 - 1991	7666
A	29m SE	Repair Works	1967 - 1968	7874
A	30m SE	Repair Works	1971	7066
A	96m SE	Garage	1979 - 1991	7763
A	113m E	Garage	1979 - 1991	7645
A	113m E	Garage	1967 - 1971	7428
F	161m NE	Garage	1991	7003
F	172m NE	Garage	1951 - 1979	7975

ID	Location	Land use	Dates present	Group ID
F	173m NE	Garage	1968	7331
M	214m E	Garage	1951 - 1957	7609
M	231m E	Garage	1991	7204
P	232m NW	Garage	1964	7111
M	241m E	Garage	1979	6896
5	244m E	Garage	1979	6667
P	259m NW	Garage	1957	6930
P	259m NW	Garage	1951 - 1967	7821
P	260m NW	Garage	1989 - 1991	7961
U	292m NW	Garage	1951 - 1957	7760
12	354m W	Garage	1991	6648

This data is sourced from Ordnance Survey / Groundsure.

1.6 Historical military land

Records within 500m

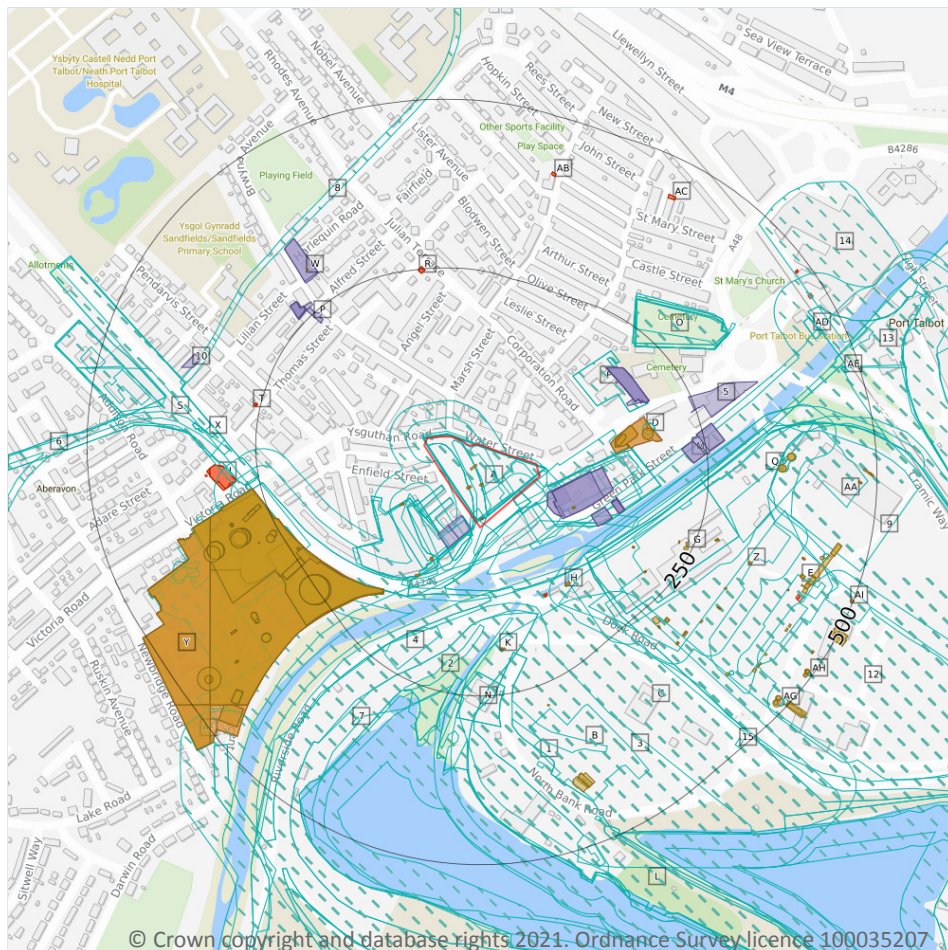
0

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

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



2 Past land use - un-grouped



- Site Outline
- Search buffers in metres (m)
- Historical industrial land uses
- Historical tanks
- Historical energy features
- Historical garages

2.1 Historical industrial land uses

Records within 500m

125

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

Features are displayed on the Past land use - un-grouped map on **page 27**

ID	Location	Land Use	Date	Group ID
A	On site	Railway Sidings	1947	355831
A	On site	Unspecified Commercial/Industrial	1947	331181
A	On site	Tin Plate Works	1897	365543



ID	Location	Land Use	Date	Group ID
A	On site	Railway Sidings	1897	359240
A	On site	Disused Tin Plate Works	1897	320588
A	On site	Unspecified Depot	1991	321584
A	On site	Railway Sidings	1914	359240
A	On site	Tin Plate Works	1914	360819
A	On site	Tin Plate Works	1921	360819
A	On site	Unspecified Works	1965	320923
A	On site	Railway Sidings	1965	377410
B	On site	Old Dock	1914	346704
C	On site	Dock	1921	365006
C	On site	Railway Sidings	1914	339723
C	On site	Railway Sidings	1921	339292
A	10m SW	Unspecified Works	1991	361017
A	10m SW	Unspecified Works	1979	370253
A	11m SW	Iron Foundry	1914	374292
A	11m SW	Iron Foundry	1921	374292
A	20m SE	Unspecified Works	1965	320924
A	20m SW	Unspecified Pit	1897	335788
A	26m SW	Unspecified Works	1965	340538
A	28m SE	Unspecified Depot	1991	321588
C	46m S	Old Dock	1947	368853
A	52m SW	Iron Foundry	1897	356626
C	96m S	Railway Sidings	1947	363275
C	105m S	Railway Sidings	1965	344615
1	117m S	Docks	1965	349804
E	119m SE	Industrial Estate	1991	323037
F	125m NE	Sawmill	1897	339201
F	125m NE	Unspecified Commercial/Industrial	1914	331179



ID	Location	Land Use	Date	Group ID
G	131m SE	Unspecified Works	1979	342355
G	131m SE	Unspecified Works	1965	376034
G	138m SE	Tin Plate Works	1897	321981
G	138m SE	Railway Sidings	1897	344340
E	144m SE	Steel Works	1914	371804
E	144m SE	Steel Works	1921	371804
2	144m S	Unspecified Ground Workings	1947	333222
E	151m SE	Steel Works	1947	349499
3	159m SE	Timber Yard	1947	331035
4	160m SW	Unspecified Depot	1991	321585
D	166m E	Unspecified Tank	1897	379090
D	166m E	Unspecified Tank	1914	379090
D	166m E	Unspecified Tank	1921	379090
E	167m SE	Railway Sidings	1979	343807
J	170m SW	Gas Holder Station	1979	328147
J	170m SW	Unspecified Commercial/Industrial	1991	331184
L	192m S	Railway Sidings	1897	365055
L	192m S	Old Dock	1897	357426
N	215m S	Unspecified Commercial/Industrial	1991	331185
N	215m S	Unspecified Works	1979	320955
J	222m SW	Railway Sidings	1947	355882
O	228m NE	Cemetery	1957	372921
O	228m NE	Cemetery	1947	349890
O	228m NE	Cemetery	1914	349890
O	228m NE	Cemetery	1921	349890
O	229m NE	Cemetery	1978	356885
O	229m NE	Cemetery	1995	370998
J	233m SW	Gas Works	1947	354382



ID	Location	Land Use	Date	Group ID
J	233m SW	Unspecified Tank	1991	348916
J	233m SW	Gasometer	1979	321173
J	233m SW	Unspecified Tank	1965	373688
J	234m SW	Gas Works	1914	357882
J	234m SW	Gas Works	1921	357882
Q	239m E	Iron Foundry	1897	338096
I	244m SW	Unspecified Works	1965	320957
N	245m S	Railway Building	1921	323569
O	248m NE	Cemetery	1897	368390
S	250m W	Railway Sidings	1914	343111
S	250m W	Railway Sidings	1921	343111
J	254m SW	Unspecified Tank	1947	320095
J	255m SW	Gasometer	1914	360954
J	255m SW	Gasometer	1921	360954
J	266m SW	Unspecified Ground Workings	1897	333220
V	288m S	Unspecified Depot	1965	321586
6	289m W	Railway Sidings	1897	368485
J	290m SW	Gasometer	1897	352797
J	293m SW	Gasometer	1914	351383
J	293m SW	Gasometer	1921	351383
J	293m SW	Unspecified Tank	1965	320094
S	296m W	Railway Sidings	1947	368918
X	307m W	Railway Station	1965	332012
X	326m W	Railway Station	1947	366822
X	329m W	Railway Station	1914	365707
X	329m W	Railway Station	1921	365707
7	334m SW	Railway Building	1947	323570
J	337m SW	Gasometer	1947	321172



ID	Location	Land Use	Date	Group ID
J	338m SW	Unspecified Tank	1965	320096
AA	339m E	Unspecified Depot	1979	321587
8	343m NW	Railway Sidings	1897	346294
9	343m E	Unspecified Works	1965	376034
I	347m SW	Unspecified Tank	1965	320093
Q	357m E	Unspecified Tanks	1991	351306
Q	357m E	Unspecified Tanks	1979	348199
11	358m S	Railway Building	1897	323564
J	376m SW	Unspecified Heap	1897	358626
J	383m SW	Unspecified Heap	1914	339442
J	383m SW	Unspecified Heap	1921	339442
S	394m W	Unspecified Commercial/Industrial	1947	331182
E	397m SE	Unspecified Works	1979	320954
E	404m SE	Unspecified Tank	1914	364937
E	404m SE	Unspecified Tank	1921	364937
S	413m W	Railway Building	1965	323571
12	416m SE	Unspecified Commercial/Industrial	1965	331178
E	437m E	Unspecified Tank	1914	356186
E	437m E	Unspecified Tank	1921	356186
AD	449m NE	Bus Station	1978	373903
AD	449m NE	Bus Station	1995	363503
13	458m E	Railway Sidings	1957	369990
S	460m W	Railway Sidings	1957	366341
L	461m S	Railway Building	1897	323566
AE	474m E	Railway Building	1947	372464
AE	474m E	Railway Building	1897	348914
14	476m NE	Unspecified Commercial/Industrial	1978	331180
L	481m SE	Unspecified Pit	1914	348976



ID	Location	Land Use	Date	Group ID
L	481m SE	Unspecified Pit	1921	348976
AG	484m SE	Unspecified Tank	1914	358612
AG	484m SE	Unspecified Tank	1921	358612
15	488m SE	Railway Building	1914	323568
S	489m W	Railway Building	1957	323573
AH	493m SE	Unspecified Tank	1914	320089
AE	496m E	Railway Buildings	1947	319113
AF	497m SW	Unspecified Works	1965	320956
L	498m S	Railway Building	1897	323565
S	499m W	Railway Building	1965	323572

This data is sourced from Ordnance Survey / Groundsure.

2.2 Historical tanks

Records within 500m	182
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Tank features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 27**

ID	Location	Land Use	Date	Group ID
A	On site	Unspecified Tank	1939	38167
A	On site	Unspecified Tank	1951	44664
A	On site	Unspecified Tank	1951	40104
A	On site	Unspecified Tank	1968	38166
A	On site	Unspecified Tank	1950	43251
A	On site	Unspecified Tank	1950	44664
A	67m SE	Unspecified Tank	1968	42830
A	68m SE	Unspecified Tank	1967	42830
A	68m SE	Unspecified Tank	1971	42830
A	72m SW	Unspecified Tank	1967	40176



ID	Location	Land Use	Date	Group ID
A	73m SW	Unspecified Tank	1968	42843
A	73m SW	Unspecified Tank	1975	40336
A	75m SW	Unspecified Tank	1990	40830
A	75m SW	Unspecified Tank	1991	42768
A	83m SW	Unspecified Tank	1967	40544
A	83m SW	Unspecified Tank	1968	40544
A	114m SW	Unspecified Tank	1990	38165
D	114m E	Gas Works	1899	44544
D	120m E	Gas Works	1881	44544
D	122m E	Gasometers	1881	39181
H	146m SE	Tanks	1979	41156
H	146m SE	Tanks	1991	41156
D	164m E	Gasometer	1899	39890
I	170m SW	Gas Works	1967	40406
I	171m SW	Gas Works	1968	41062
I	171m SW	Gas Works	1975	41062
J	171m SW	Gas Holder Station	1990	40924
J	171m SW	Gas Holder Station	1991	40924
G	172m SE	Tanks	1951	40399
G	173m SE	Tanks	1951	40399
K	181m S	Unspecified Tank	1990	43246
K	181m S	Unspecified Tank	1991	43246
K	182m S	Unspecified Tank	1975	38164
G	209m SE	Unspecified Tank	1951	43769
G	210m SE	Unspecified Tank	1951	43769
J	221m SW	Gas Works	1950	44495
G	227m SE	Unspecified Tank	1917	38162
J	229m SW	Gasometer	1967	39973



ID	Location	Land Use	Date	Group ID
J	229m SW	Gasometer	1968	41802
J	229m SW	Gasometer	1975	41802
J	230m SW	Unspecified Tank	1962	38142
J	231m SW	Gasholder	1990	43208
J	231m SW	Gasholder	1991	43208
J	232m SW	Gas Works	1951	41674
J	237m SW	Unspecified Tank	1951	40581
G	238m SE	Unspecified Tank	1939	38160
G	238m SE	Unspecified Tank	1917	38163
J	239m SW	Unspecified Tank	1950	40581
J	243m SW	Unspecified Tank	1951	41936
J	244m SW	Unspecified Tank	1950	41936
J	254m SW	Unspecified Tank	1951	43145
J	255m SW	Unspecified Tank	1950	43145
J	258m W	Unspecified Tank	1951	40341
J	259m W	Unspecified Tank	1950	40341
J	260m SW	Unspecified Tank	1917	43145
J	260m SW	Unspecified Tank	1939	43145
J	268m W	Unspecified Tank	1939	40341
C	269m SE	Tanks	1939	39670
G	276m E	Tanks	1951	40632
G	277m E	Tanks	1951	40632
B	281m S	Unspecified Tank	1968	44471
C	281m SE	Unspecified Tank	1951	40070
B	282m S	Unspecified Tank	1967	40202
C	282m SE	Unspecified Tank	1951	42079
C	282m SE	Unspecified Tank	1951	40070
C	283m SE	Unspecified Tank	1951	42079



ID	Location	Land Use	Date	Group ID
J	283m SW	Unspecified Tank	1950	38141
J	289m SW	Unspecified Tank	1951	39993
J	289m SW	Unspecified Tank	1967	39993
J	290m SW	Unspecified Tank	1968	41657
J	290m SW	Unspecified Tank	1975	41657
J	290m SW	Unspecified Tank	1950	41657
J	290m SW	Unspecified Tank	1962	41657
J	294m SW	Gasometer	1899	39900
J	296m SW	Unspecified Tank	1939	42087
W	305m NW	Unspecified Tank	1957	41411
W	306m NW	Unspecified Tank	1951	42514
J	307m SW	Unspecified Tank	1951	40125
J	307m SW	Unspecified Tank	1967	40125
J	307m SW	Unspecified Tank	1968	40125
J	307m SW	Unspecified Tank	1975	40125
J	307m SW	Unspecified Tank	1990	40125
J	307m SW	Unspecified Tank	1991	40125
J	308m SW	Unspecified Tank	1950	40125
C	315m SE	Unspecified Tank	1951	40056
C	316m SE	Unspecified Tank	1951	40056
C	319m SE	Unspecified Tank	1951	42812
C	320m SE	Tanks	1979	39669
C	320m SE	Unspecified Tank	1951	42812
C	321m SE	Unspecified Tank	1979	38155
C	327m SE	Tanks	1979	43095
C	328m SE	Tanks	1971	43095
J	333m SW	Gasometer	1951	42387
J	333m SW	Gasometer	1967	42387



ID	Location	Land Use	Date	Group ID
J	334m SW	Unspecified Tank	1968	42559
J	334m SW	Gasometer	1975	43587
J	334m SW	Gasometer	1950	43587
J	334m SW	Unspecified Tank	1962	42559
J	335m W	Gas Works	1951	44495
Y	335m W	Gas Works	1968	41062
Z	336m E	Unspecified Tank	1979	43318
Z	336m E	Unspecified Tank	1991	43318
J	341m SW	Unspecified Tank	1939	40683
I	344m SW	Unspecified Tank	1967	38144
I	344m SW	Tanks	1968	42903
I	344m SW	Tanks	1975	42903
I	345m SW	Tanks	1962	44184
I	345m SW	Gasometer	1967	39901
I	346m SW	Unspecified Tank	1967	38143
I	346m SW	Unspecified Tank	1968	41516
I	346m SW	Unspecified Tank	1975	41516
J	350m SW	Unspecified Tank	1960	42559
J	350m SW	Gasometer	1968	40349
J	350m SW	Gasometer	1951	43587
Q	354m E	Unspecified Tank	1979	41088
Q	354m E	Unspecified Tank	1991	41088
Q	368m E	Unspecified Tank	1979	41779
Q	368m E	Unspecified Tank	1991	41779
I	382m SW	Unspecified Tank	1967	40041
I	383m SW	Unspecified Tank	1968	40041
V	394m S	Tanks	1950	40413
V	394m SE	Tanks	1951	40678



ID	Location	Land Use	Date	Group ID
V	396m S	Tanks	1939	44451
E	402m SE	Unspecified Tank	1917	38154
I	406m SW	Unspecified Tank	1967	43798
E	407m E	Unspecified Tank	1951	40195
I	407m SW	Unspecified Tank	1968	43798
I	407m SW	Unspecified Tank	1975	43798
E	408m E	Unspecified Tank	1951	40195
E	413m E	Unspecified Tank	1951	40347
E	414m E	Unspecified Tank	1951	40347
E	420m SE	Unspecified Tank	1939	38156
E	425m SE	Tanks	1951	42580
E	425m SE	Unspecified Tank	1939	38157
E	425m SE	Tanks	1951	42580
E	425m SE	Unspecified Tank	1979	38153
E	427m SE	Tanks	1979	39672
I	427m SW	Tanks	1967	44475
E	427m E	Unspecified Tank	1939	43641
E	428m SE	Tanks	1979	39671
E	428m E	Unspecified Tank	1951	44179
I	429m SW	Tanks	1968	44475
I	429m SW	Tanks	1975	44475
E	429m E	Unspecified Tank	1951	44179
E	429m SE	Tanks	1979	39674
E	430m SE	Tanks	1979	39675
E	433m E	Unspecified Tank	1917	38159
I	440m SW	Unspecified Tank	1967	42596
I	442m SW	Gas Works	1968	41062
E	446m E	Unspecified Tank	1917	40932



ID	Location	Land Use	Date	Group ID
E	446m E	Unspecified Tank	1939	40932
I	452m SW	Unspecified Tank	1968	42757
I	452m SW	Unspecified Tank	1975	44409
I	453m SW	Unspecified Tank	1968	42757
AA	472m E	Unspecified Tank	1951	43880
AA	473m E	Unspecified Tank	1951	43880
AF	478m SW	Gas Works	1968	41062
AG	479m SE	Unspecified Tank	1951	43694
AH	480m SE	Unspecified Tank	1951	42207
AG	480m SE	Unspecified Tank	1951	43694
AA	480m E	Tanks	1979	39668
AH	480m SE	Unspecified Tank	1951	42207
AG	481m SE	Unspecified Tank	1917	42604
AG	482m SE	Unspecified Tank	1939	44666
AA	487m E	Tanks	1979	43159
AA	487m E	Tanks	1971	43159
AH	487m SE	Unspecified Tank	1967	42253
AH	487m SE	Unspecified Tank	1968	42253
AH	488m SE	Unspecified Tank	1964	42253
AH	488m SE	Unspecified Tank	1957	42253
AH	488m SE	Unspecified Tank	1951	42253
AH	488m SE	Unspecified Tank	1951	42253
AH	489m SE	Unspecified Tank	1917	41019
AH	489m SE	Unspecified Tank	1939	41019
AH	490m SE	Unspecified Tank	1951	42961
AH	491m SE	Unspecified Tank	1951	42961
AH	492m SE	Unspecified Tank	1917	42961
AH	492m SE	Unspecified Tank	1939	42961



ID	Location	Land Use	Date	Group ID
AI	496m E	Unspecified Tank	1951	40101
AI	497m E	Unspecified Tank	1951	40101
AG	497m SE	Unspecified Tank	1939	42406
AG	498m SE	Unspecified Tank	1917	42406

This data is sourced from Ordnance Survey / Groundsure.

2.3 Historical energy features

Records within 500m	71
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Energy features digitised from historical Ordnance Survey mapping at high-detail 1:1,250 and 1:2,500 scale. Any records shown are available intelligently grouped in section 1. Grouped and the original un-grouped features can be cross-referenced across sections 1 and 2 using the 'Group ID'.

Features are displayed on the Past land use - un-grouped map on **page 27**

ID	Location	Land Use	Date	Group ID
A	On site	Electricity Transformer	1975	19799
A	On site	Electricity Substation	1990	22965
A	On site	Electricity Substation	1991	22965
D	114m E	Gas Works	1899	23085
D	120m E	Gas Works	1881	23085
D	122m E	Gasometers	1881	19719
H	136m SE	Electricity Substation	1990	20365
H	136m SE	Electricity Substation	1991	20365
H	137m SE	Electricity Transformer	1967	20378
H	138m SE	Electricity Transformer	1968	20307
H	138m SE	Electricity Transformer	1975	20307
D	164m E	Gasometer	1899	20030
I	170m SW	Gas Works	1967	20288
I	171m SW	Gas Works	1968	22028
I	171m SW	Gas Works	1975	22028
J	171m SW	Gas Holder Station	1990	22544



ID	Location	Land Use	Date	Group ID
J	171m SW	Gas Holder Station	1991	22544
J	221m SW	Gas Works	1950	22233
J	229m SW	Gasometer	1967	22607
J	229m SW	Gasometer	1968	20944
J	229m SW	Gasometer	1975	20944
J	231m SW	Gasholder	1990	20139
J	231m SW	Gasholder	1991	20139
J	232m SW	Gas Works	1951	21215
R	244m N	Electricity Substation	1989	22235
R	244m N	Electricity Substation	1989	22235
R	244m N	Electricity Substation	1991	22235
R	244m N	Electricity Substation	1991	22235
T	254m W	Electricity Transformer	1967	22557
T	255m W	Electricity Transformer	1968	22557
T	255m W	Electricity Transformer	1975	22557
T	255m W	Electricity Transformer	1990	22557
T	255m W	Electricity Transformer	1991	22557
J	280m W	Electricity Substation	1990	20395
J	280m W	Electricity Substation	1991	20395
U	283m W	Electricity Substation	1990	23166
U	283m W	Electricity Substation	1991	23166
U	284m W	Electricity Substation	1968	23622
U	284m W	Electricity Substation	1975	23622
U	284m W	Electricity Substation	1950	23622
U	289m W	Electricity Substation	1951	20200
U	289m W	Electricity Substation	1967	20200
J	294m SW	Gasometer	1899	20040
U	320m W	Electricity Substation	1968	23622



ID	Location	Land Use	Date	Group ID
U	320m W	Electricity Substation	1991	21099
U	320m W	Electricity Substation	1986	21099
U	325m W	Electricity Substation	1967	19284
J	333m SW	Gasometer	1951	20848
J	333m SW	Gasometer	1967	20848
J	334m SW	Gasometer	1975	22369
J	334m SW	Gasometer	1950	22369
J	335m W	Gas Works	1951	22233
Y	335m W	Gas Works	1968	22028
I	345m SW	Gasometer	1967	20041
J	350m SW	Gasometer	1968	21501
J	350m SW	Gasometer	1951	22369
E	404m SE	Electricity Substation	1979	19285
AB	413m N	Electricity Substation	1988	20266
AB	413m N	Electricity Substation	1993	20266
E	420m SE	Electricity Substation	1991	19286
E	424m SE	Electricity Substation	1971	19288
AC	440m NE	Electricity Substation	1993	21375
AC	441m NE	Electricity Substation	1988	21375
I	442m SW	Gas Works	1968	22028
AD	474m NE	Electricity Substation	1968	19320
AD	478m NE	Electricity Substation	1993	21818
AD	478m NE	Electricity Substation	1988	21818
AF	478m SW	Gas Works	1968	22028
AE	498m E	Gas Governor	1993	21346
AE	498m E	Gas Governor	1991	21346
AE	498m E	Gas Governor	1988	21022

This data is sourced from Ordnance Survey / Groundsure.



2.4 Historical petrol stations

Records within 500m

0

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

This data is sourced from Ordnance Survey / Groundsure.

2.5 Historical garages

Records within 500m

38

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

Features are displayed on the Past land use - un-grouped map on **page 27**

ID	Location	Land Use	Date	Group ID
A	12m SW	Garage	1950	7466
A	27m SE	Garage	1979	7666
A	27m SE	Garage	1991	7666
A	29m SE	Repair Works	1968	7874
A	29m SE	Repair Works	1967	7874
A	30m SE	Repair Works	1971	7066
A	35m SW	Garage	1950	7466
A	96m SE	Garage	1979	7763
A	96m SE	Garage	1991	7763
A	113m E	Garage	1979	7645
A	113m E	Garage	1991	7645
A	113m E	Garage	1968	7428
A	114m E	Garage	1967	7428
A	114m E	Garage	1971	7428
F	161m NE	Garage	1991	7003
F	172m NE	Garage	1979	7975



ID	Location	Land Use	Date	Group ID
F	173m NE	Garage	1964	7975
F	173m NE	Garage	1957	7975
F	173m NE	Garage	1967	7975
F	173m NE	Garage	1971	7975
F	173m NE	Garage	1951	7975
F	173m NE	Garage	1968	7331
M	214m E	Garage	1951	7609
M	214m E	Garage	1957	7609
M	231m E	Garage	1991	7204
P	232m NW	Garage	1964	7111
M	241m E	Garage	1979	6896
5	244m E	Garage	1979	6667
P	259m NW	Garage	1957	6930
P	259m NW	Garage	1967	7821
P	259m NW	Garage	1951	7821
P	260m NW	Garage	1989	7961
P	260m NW	Garage	1989	7961
P	260m NW	Garage	1991	7961
P	260m NW	Garage	1991	7961
W	292m NW	Garage	1951	7760
W	295m NW	Garage	1957	7760
10	354m W	Garage	1991	6648

This data is sourced from Ordnance Survey / Groundsure.



3 Waste and landfill



- Site Outline
- Search buffers in metres (m)
- Historical waste sites
- Licensed waste sites
- Waste exemptions

3.1 Active or recent landfill

Records within 500m

0

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

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

3.2 Historical landfill (BGS records)

Records within 500m

0

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

This data is sourced from the British Geological Survey.



3.3 Historical landfill (LA/mapping records)

Records within 500m

0

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

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

3.4 Historical landfill (EA/NRW records)

Records within 500m

0

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

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

3.5 Historical waste sites

Records within 500m

7

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

Features are displayed on the Waste and landfill map on **page 44**

ID	Location	Address	Further Details	Date
A	118m E	Site Address: N/A	Type of Site: Scrap Metal Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1970
A	118m E	Site Address: N/A	Type of Site: Scrap Metal Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1968
A	118m E	Site Address: N/A	Type of Site: Scrap Metal Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1979

ID	Location	Address	Further Details	Date
A	118m E	Site Address: N/A	Type of Site: Scrap Metal Yard Planning application reference: N/A Description: N/A Data source: Historic Mapping Data Type: Polygon	1967
C	212m SE	Site Address: Byass Works, Former Kancoat Premises, PORT TALBOT, West Glamorgan, SA13 1RS	Type of Site: Recycling Centre (C/U) Planning application reference: 95/9946 Description: C/u from industrial. An application (ref: 95/9946) for Detailed Planning permission was submitted to Neath & Port Talbot B.C. on 28th March 1995. Data source: Historic Planning Application Data Type: Point	-
C	212m SE	Site Address: Old Bypass Works, PORT TALBOT, West Glamorgan	Type of Site: Recycling Centre (Extension) Planning application reference: 95/9975 Description: Single storey rest room and store. An application (ref: 95/9975) for Detailed Planning permission was submitted to Neath & Port Talbot B.C. on 21st April 1995. Data source: Historic Planning Application Data Type: Point	-
E	258m E	Site Address: Byass Works, Docks Road, PORT TALBOT, West Glamorgan, SA13 1RS	Type of Site: Waste Transfer Station (Cou) Planning application reference: P/97/0530 Description: Change of use of building to a waste transfer station with office. An application (ref: P/97/0530) for Detailed Planning permission was submitted to Neath & Port Talbot B.C. on 15th May 1997. Data source: Historic Planning Application Data Type: Point	-

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

3.6 Licensed waste sites

Records within 500m

29

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

Features are displayed on the Waste and landfill map on **page 44**



ID	Location	Details		
B	178m SE	Site Name: Jem Recycling 1 Port Talbot Skips Site Address: Byass Works, Docks Road, Port Talbot, SA13 1ER Correspondence Address: Byass Works, Docks Road, Port Talbot, SA13 1ER	Type of Site: Household, Commercial & Industrial Waste T Stn Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: JEM003 EPR reference: - Operator: Jem Recycling Ltd Waste Management licence No: 34168 Annual Tonnage: 0	Issue Date: 30/03/1994 Effective Date: - Modified: - Surrendered Date: - Expiry Date: 01/04/2000 Cancelled Date: - Status: Expired
B	178m SE	Site Name: Jem Recycling 1 Phase 2 Site Address: Old Byass Works, Docks Road, Port Talbot, SA13 1ER Correspondence Address: Martin Harry, Old Byass Works, Docks Road, Port Talbot, SA13 1ER	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JEM001 EPR reference: - Operator: Jem Recycling Ltd Waste Management licence No: 34154 Annual Tonnage: 0	Issue Date: 01/04/1998 Effective Date: - Modified: - Surrendered Date: - Expiry Date: 01/04/2000 Cancelled Date: - Status: Expired
B	178m SE	Site Name: Jem Recycling 1 Port Talbot Skips Site Address: Old Byass Works, Old Byass Works, Docks Road, Port Talbot, N P T, SA13 1ER Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JEM003 EPR reference: CP3898FU/A001 Operator: Jem Recycling Ltd Waste Management licence No: 34168 Annual Tonnage: 25000	Issue Date: 30/03/1994 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 2.00004e+016 Cancelled Date: 0 Status: Expired



ID	Location	Details		
B	178m SE	Site Name: Jem Recycling 2 Adjoining 1 Site Address: Old Byass Works, Docks Road, Port Talbot, N P T, SA13 1ER Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JEM002 EPR reference: EA/EPR/HP3398FP/A001 Operator: Jem Recycling Ltd Waste Management licence No: 34142 Annual Tonnage: 19274	Issue Date: 24/12/1996 Effective Date: - Modified: - Surrendered Date: - Expiry Date: 01/04/2000 Cancelled Date: - Status: Expired
B	178m SE	Site Name: Jem Recycling 1 Port Talbot Skips Site Address: Old Byass Works, Old Byass Works, Docks Road, Port Talbot, N P T, SA13 1ER Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JEM003 EPR reference: EA/EPR/CP3898FU/A001 Operator: Jem Recycling Ltd Waste Management licence No: 34168 Annual Tonnage: 25000	Issue Date: 30/03/1994 Effective Date: - Modified: - Surrendered Date: - Expiry Date: 01/04/2000 Cancelled Date: - Status: Expired
B	178m SE	Site Name: Jem Recycling 1 Phase 2 Site Address: Old Byass Works, Docks Road, Port Talbot, N P T, SA13 1ER Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JEM001 EPR reference: EA/EPR/FP3998FH/A001 Operator: Jem Recycling Ltd Waste Management licence No: 34154 Annual Tonnage: 5932	Issue Date: 01/04/1998 Effective Date: - Modified: - Surrendered Date: - Expiry Date: 01/04/2000 Cancelled Date: - Status: Expired



ID	Location	Details		
B	178m SE	Site Name: Jem Recycling 1 Phase 2 Site Address: Old Byass Works, Docks Road, Port Talbot, N P T, SA13 1ER Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JEM001 EPR reference: FP3998FH/A001 Operator: Jem Recycling Ltd Waste Management licence No: 34154 Annual Tonnage: 5932	Issue Date: 01/04/1998 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 2.00004e+016 Cancelled Date: 0 Status: Expired
B	178m SE	Site Name: Jem Recycling 2 Adjoining 1 Site Address: Old Byass Works, Docks Road, Port Talbot, N P T, SA13 1ER Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: JEM002 EPR reference: HP3398FP/A001 Operator: Jem Recycling Ltd Waste Management licence No: 34142 Annual Tonnage: 19274	Issue Date: 24/12/1996 Effective Date: - Modified: - Surrendered Date: 0 Expiry Date: 2.00004e+016 Cancelled Date: 0 Status: Expired
D	254m SE	Site Name: Paper Dragon Site Address: Former Byass Works, Docks Road, Port Talbot, N P T, SA13 1RS Correspondence Address: Former Byass Works, Docks Road, Port Talbot, N P T, SA13 1RS	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: DRA001 EPR reference: - Operator: Draig Recycling Ltd Waste Management licence No: 34283 Annual Tonnage: 24999	Issue Date: 25/08/2006 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued



ID	Location	Details		
D	254m SE	Site Name: Port Talbot Recovery Centre Site Address: Former Byass Works, Docks Road, Port Talbot, N P T, SA13 1RS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: EGA006 EPR reference: EA/EPR/LB3933DA/V002 Operator: Egan Metal Recycling Limited Waste Management licence No: 34283 Annual Tonnage: 24999	Issue Date: 25/08/2006 Effective Date: 23/11/2012 Modified: 04/04/2013 Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Modified
D	254m SE	Site Name: Paper Dragon Site Address: Former Byass Works, Docks Road, Port Talbot, N P T, SA13 1RS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: 342083 EPR reference: EA/EPR/JP3898FC/T002 Operator: The Recycling Company Limited Waste Management licence No: 34283 Annual Tonnage: 24999	Issue Date: 25/08/2006 Effective Date: 14/02/2007 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Transferred
D	254m SE	Site Name: - Site Address: Port Talbot Recovery Centre, Former Byass Works, Docks Road, Port Talbot, Neath Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: LB3933DA EPR reference: - Operator: Egan Metal Recycling Limited Waste Management licence No: 0 Annual Tonnage: 24999	Issue Date: 25/08/2006 Effective Date: 25/08/2006 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Expired



ID	Location	Details		
D	254m SE	Site Name: - Site Address: Port Talbot Recovery Centre, Former Byass Works, Docks Road, Port Talbot, N P T, SA13 1RS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: LB3933DA EPR reference: - Operator: - Waste Management licence No: 34283 Annual Tonnage: 24999	Issue Date: 25/08/2006 Effective Date: 25/08/2006 Modified: - Surrendered Date: - Expiry Date: 14/11/2015 Cancelled Date: - Status: Expired
D	254m SE	Site Name: - Site Address: Port Talbot Recovery Centre, Former Byass Works, Docks Road, Port Talbot, N P T, SA13 1RS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: - Environmental Permitting Regulations (Waste) Licence Number: LB3933DA EPR reference: - Operator: Egan Metal Recycling Limited Waste Management licence No: 34283 Annual Tonnage: 24999	Issue Date: 25/08/2006 Effective Date: 25/08/2006 Modified: - Surrendered Date: - Expiry Date: 14/11/2015 Cancelled Date: - Status: Expired
D	254m SE	Site Name: - Site Address: Port Talbot Recovery Centre, Former Byass Works, Docks Road, Port Talbot, N P T, SA13 1RS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: - Environmental Permitting Regulations (Waste) Licence Number: LB3933DA EPR reference: - Operator: Egan Metal Recycling Limited Waste Management licence No: 34283 Annual Tonnage: 24999	Issue Date: 25/08/2006 Effective Date: 25/08/2006 Modified: - Surrendered Date: - Expiry Date: 14/11/2015 Cancelled Date: - Status: Expired
D	254m SE	Site Name: - Site Address: Port Talbot Recovery Centre, Former Byass Works, Docks Road, N P T, Port Talbot, Neath Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: LB3933DA EPR reference: - Operator: Egan Metal Recycling Limited Waste Management licence No: 34283 Annual Tonnage: 24999	Issue Date: 25/08/2006 Effective Date: 25/08/2006 Modified: - Surrendered Date: - Expiry Date: 14/11/2015 Cancelled Date: - Status: Expired



ID	Location	Details		
D	255m SE	Site Name: Port Talbot Recovery Centre Site Address: Former Byass Works, Docks Road, Port Talbot, N P T, SA13 1RS Correspondence Address: -	Type of Site: Household, Commercial & Industrial Waste T Stn Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: EGA006 EPR reference: LB3933DA/V002 Operator: Egan Metal Recycling Limited Waste Management licence No: 34283 Annual Tonnage: 0	Issue Date: 25/08/2006 Effective Date: 23/11/2012 Modified: 04/04/2013 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Modified
D	255m SE	Site Name: - Site Address: Byass Works, Byass Works, The Docks, Port Talbot, Neath Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: 75kte HCI Waste TS + treatment Size: - Environmental Permitting Regulations (Waste) Licence Number: AB3895CN EPR reference: - Operator: A W D Group Ltd Waste Management licence No: 0 Annual Tonnage: 75000	Issue Date: 18/09/2018 Effective Date: 18/09/2018 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
D	255m SE	Site Name: - Site Address: Byass Works, Byass Works, The Docks, Port Talbot, Neath Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: 75kte HCI Waste TS + treatment Size: - Environmental Permitting Regulations (Waste) Licence Number: AB3895CN EPR reference: - Operator: A W D Group Ltd Waste Management licence No: 0 Annual Tonnage: 75000	Issue Date: 18/09/2018 Effective Date: 18/09/2018 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
D	255m SE	Site Name: - Site Address: Byass Works, Byass Works, Neath Port Talbot, Port Talbot, Neath Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: AB3895CN EPR reference: - Operator: A W D Group Ltd Waste Management licence No: 0 Annual Tonnage: 75000	Issue Date: 04/06/2018 Effective Date: 04/06/2018 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective



ID	Location	Details		
E	300m E	Site Name: - Site Address: C. P. Harvey (Scrap) Limited, The Docks, Port Talbot, Neath Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: PP3298FX EPR reference: - Operator: C. P. Harvey (Scrap) Limited Waste Management licence No: 0 Annual Tonnage: 0	Issue Date: 30/01/1994 Effective Date: 30/01/1994 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
E	300m E	Site Name: C P Harvey Plant Hire Ltd Site Address: Old Byass Works, Cramic Way, Port Talbot, N P T, SA13 1RU Correspondence Address: -	Type of Site: Metal Recycling Site (mixed MRS's) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HAR001 EPR reference: EA/EPR/PP3298FX/A001 Operator: C P Harvey Recycling Ltd Waste Management licence No: 34040 Annual Tonnage: 30000	Issue Date: 30/01/1994 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
E	300m E	Site Name: C P Harvey Plant Hire Ltd Site Address: Old Byass Works, Cramic Way, Port Talbot, N P T, SA13 1RU Correspondence Address: -	Type of Site: Metal Recycling Site (mixed MRS's) Size: >= 25000 tonnes 75000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HAR001 EPR reference: PP3298FX/A001 Operator: C P Harvey Recycling Ltd Waste Management licence No: 34040 Annual Tonnage: 30000	Issue Date: 30/01/1994 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued
E	300m E	Site Name: - Site Address: - Correspondence Address: -	Type of Site: 75kte Metal Recycling Site Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: PP3298FX EPR reference: - Operator: - Waste Management licence No: 34040 Annual Tonnage: 75000	Issue Date: 01/09/2016 Effective Date: 01/09/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective



ID	Location	Details		
E	300m E	Site Name: - Site Address: Old Byass Works, The Docks, Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: 75kte Metal Recycling Site Size: - Environmental Permitting Regulations (Waste) Licence Number: PP3298FX EPR reference: - Operator: Cuddy Recycling Ltd Waste Management licence No: 34040 Annual Tonnage: 75000	Issue Date: 01/09/2016 Effective Date: 01/09/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
E	300m E	Site Name: - Site Address: Old Byass Works, The Docks, Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: 75kte Metal Recycling Site Size: - Environmental Permitting Regulations (Waste) Licence Number: PP3298FX EPR reference: - Operator: Cuddy Recycling Ltd Waste Management licence No: 34040 Annual Tonnage: 75000	Issue Date: 01/09/2016 Effective Date: 01/09/2016 Modified: - Surrendered Date: - Expiry Date: 01/05/2020 Cancelled Date: - Status: Expired
E	300m E	Site Name: - Site Address: Old Byass Works, The Docks, Port Talbot, Neath Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: - Size: Unknown Environmental Permitting Regulations (Waste) Licence Number: PP3298FX EPR reference: - Operator: Cuddy Recycling Ltd Waste Management licence No: 34040 Annual Tonnage: 75000	Issue Date: 01/09/2016 Effective Date: 01/09/2016 Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Effective
E	301m E	Site Name: C. P. Harvey (Scrap) Limited Site Address: Old Byass Works, The Docks, Port Talbot, SA13 1RS Correspondence Address: -	Type of Site: 75kte Metal Recycling Site Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HAR001 EPR reference: PP3298FX/V006 Operator: C. P. Harvey (Scrap) Limited Waste Management licence No: 34040 Annual Tonnage: 150	Issue Date: 30/01/1994 Effective Date: - Modified: 26/06/2015 Surrendered Date: 0 Expiry Date: 0 Cancelled Date: 0 Status: Modified



ID	Location	Details		
E	313m E	Site Name: C P Harvey Plant Hire Ltd Site Address: Old Bypass Works, Cramic Way, Port Talbot, SA13 1RF Correspondence Address: Alexandra House, 1, Alexandra Road, Swansea, SA1 5ED	Type of Site: Metal Recycling Site (mixed MRS's) Size: 25000 tonnes Environmental Permitting Regulations (Waste) Licence Number: HAR001 EPR reference: - Operator: C P Harvey Recycling Ltd Waste Management licence No: 34040 Annual Tonnage: 0	Issue Date: 30/01/1994 Effective Date: - Modified: - Surrendered Date: - Expiry Date: - Cancelled Date: - Status: Issued

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

3.7 Waste exemptions

Records within 500m	15
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Activities involving the storage, treatment, use or disposal of waste that are exempt from needing a permit. Exemptions have specific limits and conditions that must be adhered to.

Features are displayed on the Waste and landfill map on **page 44**

ID	Location	Site	Reference	Category	Sub-Category	Description
D	227m SE	AWD GROUP LTD, A W D Group Ltd, Byass Works, Dock Road, The Docks, Port Talbot, Castell-nedd Port Talbot, SA13 1RS	NRW-WME064792	Treating waste exemption	Not on a farm	Manual treatment of waste
D	227m SE	AWD GROUP LTD, A W D Group Ltd, Byass Works, Dock Road, The Docks, Port Talbot, Castell-nedd Port Talbot, SA13 1RS	NRW-WME064792	Storing waste exemption	Not on a farm	Storage of waste in a secure place
D	227m SE	AWD GROUP LTD, A W D Group Ltd, Byass Works, Dock Road, The Docks, Port Talbot, Castell-nedd Port Talbot, SA13 1RS	NRW-WME064792	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	302m E	The old Byass works, Longs industrial est, The docks, Port Talbot, SA13 1RS	WEX116522	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	302m E	The old Byass works, Longs industrial est, The docks, Port Talbot, SA13 1RS	WEX116522	Treating waste exemption	Not on a farm	Sorting mixed waste

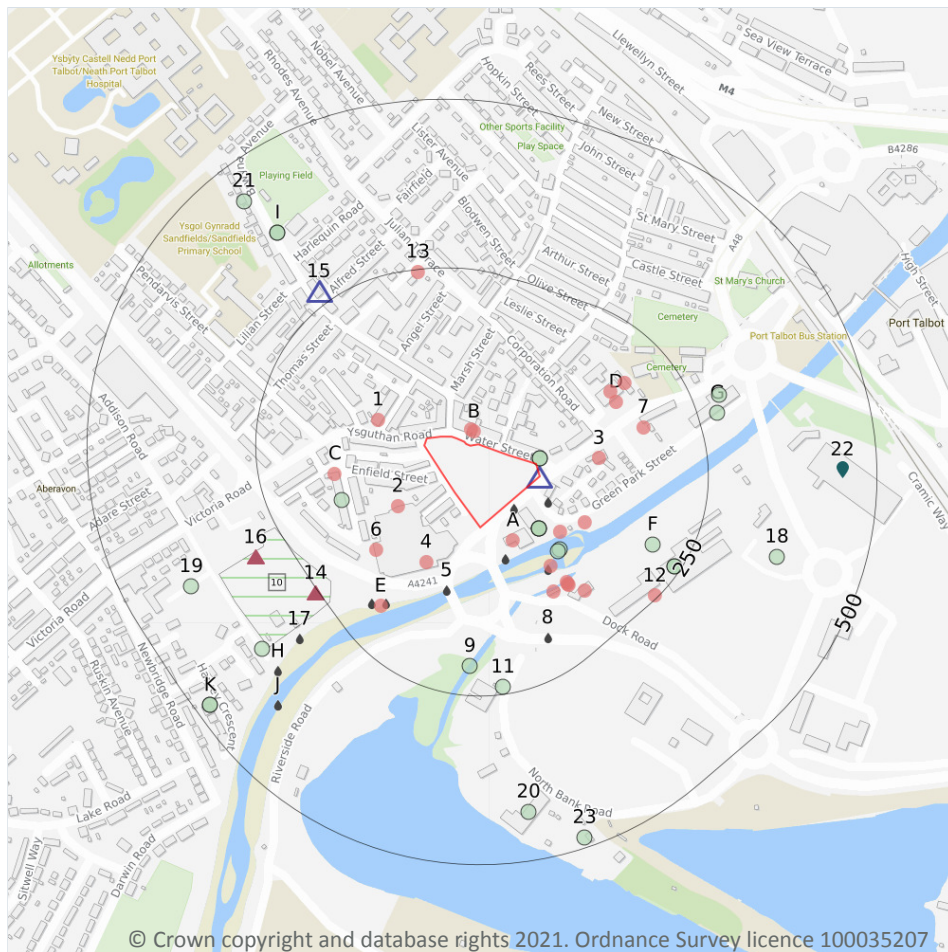


ID	Location	Site	Reference	Category	Sub-Category	Description
E	302m E	The old Byass works, Longs industrial est, The docks, Port Talbot, SA13 1RS	WEX116522	Treating waste exemption	Not on a farm	Manual treatment of waste
E	302m E	The old Byass works, Longs industrial est, The docks, Port Talbot, SA13 1RS	WEX116522	Using waste exemption	Not on a farm	Use of waste in construction
E	302m E	AWD GROUP LTD, Former Byass Works, Docks Way, sa131rs	NRW-WME028231	Storing waste exemption	Not on a farm	Storage of waste in secure containers
E	302m E	AWD GROUP LTD, Former Byass Works, Docks Way, sa131rs	NRW-WME028231	Storing waste exemption	Not on a farm	Storage of waste in a secure place
E	302m E	AWD GROUP LTD, Former Byass Works, Docks Way, sa131rs	NRW-WME028231	Treating waste exemption	Not on a farm	Manual treatment of waste
E	302m E	AWD GROUP LTD, Former byass works, Docks Road, Port Talbot, Castell-nedd Port Talbot, SA131RS	NRW-WME028232	Treating waste exemption	Not on a farm	Sorting mixed waste
E	302m E	AWD GROUP LTD, Former byass works, Docks Road, Port Talbot, Castell-nedd Port Talbot, SA131RS	NRW-WME028232	Using waste exemption	Not on a farm	Use of waste in construction
E	302m E	AWD GROUP LTD, Former byass works, Docks Road, Port Talbot, Castell-nedd Port Talbot, SA131RS	NRW-WME028232	Treating waste exemption	Not on a farm	Recovery of scrap metal
F	427m S	Evans Hydraulics Limited T/A DWE Hydraulics & Pneumatics, North Bnak Road, The Docks, Port Talbot, SA131RE	NRW-WME053634	Using waste exemption	Not on a farm	Use of waste to manufacture finished goods
F	427m S	Generator Power Ltd, The Docks, Port Talbot, SA13 1RE	NRW-WME000869	Storing waste exemption	Waste Exemption - Non-Agricultural	Storage of waste in secure containers

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



4 Current industrial land use



- Site Outline
- Search buffers in metres (m)
- Recent industrial land uses
- △ Current or recent petrol stations
- Control of Major Accident Hazards
- ▲ Hazardous substance storage/usage
- ◆ Licensed pollutant release (Part A(2)/B)
- ◆ Licensed Discharges to controlled waters
- Pollution Incidents (EA/NRW)

4.1 Recent industrial land uses

Records within 250m

24

Current potentially contaminative industrial sites.

Features are displayed on the Current industrial land use map on **page 57**

ID	Location	Company	Address	Activity	Category
B	20m N	Knight Services	182a, Water Street, Port Talbot, West Glamorgan, SA12 6LL	Electronic Equipment	Industrial Products
B	21m NE	Talbot Blind Co	184, Water Street, Port Talbot, West Glamorgan, SA12 6LL	Curtains and Blinds	Consumer Products



ID	Location	Company	Address	Activity	Category
A	46m SE	ATS Euromaster Ltd	Afan Way, Port Talbot, West Glamorgan, SA12 6NR	Vehicle Parts and Accessories	Motoring
1	77m W	Qtronic Alarms & Vision	3, Beach Street, Port Talbot, West Glamorgan, SA12 6NA	Electronic Equipment	Industrial Products
2	82m SW	Tank	West Glamorgan, SA12	Tanks (Generic)	Industrial Features
A	82m SE	Slipway	West Glamorgan, SA12	Moorings and Unloading Facilities	Water
3	92m E	Best at Hire	Water Street, Port Talbot, West Glamorgan, SA12 6LF	Construction and Tool Hire	Hire Services
A	94m SE	Pumping Station	West Glamorgan, SA12	Water Pumping Stations	Industrial Features
4	95m SW	Works	West Glamorgan, SA12	Unspecified Works Or Factories	Industrial Features
A	111m SE	Outfall	West Glamorgan, SA12	Waste Storage, Processing and Disposal	Infrastructure and Facilities
C	139m W	Celtic Leather & Fabric	Unit 1, Henshaw Street, Port Talbot, West Glamorgan, SA12 6NH	Textiles, Fabrics, Silk and Machinery	Industrial Products
A	143m SE	Pumping Station	West Glamorgan, SA13	Water Pumping Stations	Industrial Features
6	144m SW	Site Heat Treatment Services Ltd	Unit 2, Henshaw Street, Port Talbot, West Glamorgan, SA12 6NH	Industrial Coatings and Finishings	Industrial Products
A	145m SE	Tank	West Glamorgan, SA13	Tanks (Generic)	Industrial Features
A	148m SE	Tank	West Glamorgan, SA13	Tanks (Generic)	Industrial Features
D	150m NE	Business Centre	West Glamorgan, SA12	Business Parks and Industrial Estates	Industrial Features
A	150m SE	Tank	West Glamorgan, SA13	Tanks (Generic)	Industrial Features
D	154m NE	Brandon Hire	Water Street, Port Talbot, West Glamorgan, SA12 6LF	Construction and Tool Hire	Hire Services
7	168m E	Electricity Sub Station	West Glamorgan, SA12	Electrical Features	Infrastructure and Facilities



ID	Location	Company	Address	Activity	Category
A	172m SE	Exuma Plant Hire	Exuma Plant, Dock Road, Port Talbot, West Glamorgan, SA13 1RS	Construction and Tool Hire	Hire Services
D	178m NE	B Harwood & Son Ltd	Water Street, Port Talbot, West Glamorgan, SA12 6LF	Vehicle Repair, Testing and Servicing	Repair and Servicing
E	188m SW	Outfall	West Glamorgan, SA13	Waste Storage, Processing and Disposal	Infrastructure and Facilities
12	246m SE	Electricity Sub Station	West Glamorgan, SA13	Electrical Features	Infrastructure and Facilities
13	247m N	Electricity Sub Station	West Glamorgan, SA12	Electrical Features	Infrastructure and Facilities

This data is sourced from Ordnance Survey.

4.2 Current or recent petrol stations

Records within 500m	2
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Open, closed, under development and obsolete petrol stations.

Features are displayed on the Current industrial land use map on **page 57**

ID	Location	Company	Address	LPG	Status
A	On site	OBSOLETE	Afan Way, Port Talbot, Neath Port Talbot, SA12 6NR	Not Applicable	Obsolete
15	270m NW	OBSOLETE	63, Sandifields Road, Port Talbot, Neath Port Talbot, SA12 6LR	Not Applicable	Obsolete

This data is sourced from Experian.

4.3 Electricity cables

Records within 500m	0
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High voltage underground electricity transmission cables.

This data is sourced from National Grid.



4.4 Gas pipelines

Records within 500m**0**

High pressure underground gas transmission pipelines.

This data is sourced from National Grid.

4.5 Sites determined as Contaminated Land

Records within 500m**0**

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

This data is sourced from Local Authority records.

4.6 Control of Major Accident Hazards (COMAH)

Records within 500m**1**

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

Features are displayed on the Current industrial land use map on **page 57**

ID	Location	Company	Address	Operational status	Tier
10	226m SW	British Gas	British Gas, Aberavon Gasworks, Victoria Road, Port Talbot, SA13 1PN	Historical NIHHS Site	-

This data is sourced from the Health and Safety Executive.

4.7 Regulated explosive sites

Records within 500m**0**

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

This data is sourced from the Health and Safety Executive.

4.8 Hazardous substance storage/usage

Records within 500m

2

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

Features are displayed on the Current industrial land use map on **page 57**

ID	Location	Details	
14	254m SW	Application reference number: 92/8976 Application status: Historical Consent Application date: 01/01/1992 Address: Aberavon Gas Works, Port Talbot, West Glamorgan, SA12 6DB	Details: Storage of hazardous substances. Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified
16	300m SW	Application reference number: No details. Application status: Historical Consent Application date: No Details Address: Transco Plc, Victoria Road, Aberavon, Port Talbot, SA12 6DB	Details: No Details Enforcement: No Enforcement Notified Date of enforcement: No Enforcement Notified Comment: No Enforcement Notified

This data is sourced from Local Authority records.

4.9 Historical licensed industrial activities (IPC)

Records within 500m

0

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

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

4.10 Licensed industrial activities (Part A(1))

Records within 500m

0

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

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



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

Records within 500m

1

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

Features are displayed on the Current industrial land use map on **page 57**

ID	Location	Address	Details	
22	448m E	Rhino Engineering Limited, Cramic House, Cramic Way, Port Talbot, SA13 1RU	Process: Waste Oil Burner 0.4 MW Status: New Legislation Applies Permit Type: Part B	Enforcement: No enforcements issued Date of enforcement: No enforcements issued Comment: No enforcements issued

This data is sourced from Local Authority records.

4.12 Radioactive Substance Authorisations

Records within 500m

0

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

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

4.13 Licensed Discharges to controlled waters

Records within 500m

12

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

Features are displayed on the Current industrial land use map on **page 57**

ID	Location	Address	Details	
A	12m SE	MOORS CULVERT 30 METRES U/S ROAD BR, MOORS CULVERT 30 METRES U/S ROAD, 30 METRES U/S ROAD BRIDGE ABERA, ABERAVON	Effluent Type: UNSPECIFIED Permit Number: BP0240201 Permit Version: 1 Receiving Water: RIVER AFAN	Status: NEW CONSENT, BY APPLICATION (WRA 91, SECTION 88) Issue date: 21/07/1994 Effective Date: 21/07/1994 Revocation Date: 11/03/2003
A	36m SE	PORT TALBOT DOCKS - OVERFLOW F	Effluent Type: UNSPECIFIED Permit Number: BP0055728 Permit Version: 1 Receiving Water: PORT TALBOT DOCKS	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 18/09/1987 Effective Date: 18/09/1987 Revocation Date: 18/11/1992



ID	Location	Address	Details	
A	59m SE	CSO NO 126 MOORS ST CULVERT AFAN, CSO NO 126, MOORS STREET CULVERT, AFAN, NEATH PORT TALBOT CBC	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BP0240201 Permit Version: 2 Receiving Water: THE AFON AFAN	Status: Effective Issue date: 11/03/2003 Effective Date: 12/03/2003 Revocation Date: -
5	106m SW	ISAACS PLCE SJC PORT T	Effluent Type: UNSPECIFIED Permit Number: BB4025506 Permit Version: 1 Receiving Water: UNNAMED	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 19/07/1978 Effective Date: 19/07/1978 Revocation Date: 14/03/1994
A	112m SE	ABBAY BSC WORKS	Effluent Type: UNSPECIFIED Permit Number: BO5081401 Permit Version: 1 Receiving Water: BETSI LAGOON	Status: REVOKED (WRA 91, S88 & SCHD 10 AS AMENDED BY ENV Issue date: 20/10/1989 Effective Date: 20/10/1989 Revocation Date: 31/03/2004
E	180m SW	WATER ST.CJC PORT TALB	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BB4025505 Permit Version: 1 Receiving Water: River Tawe	Status: Surrendered Issue date: 19/07/1978 Effective Date: 19/07/1978 Revocation Date: -
8	191m SE	PORT TALBOT DOCKS - SECURITY B	Effluent Type: UNSPECIFIED Permit Number: BP0055705 Permit Version: 1 Receiving Water: PORT TALBOT DOCKS	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 18/09/1987 Effective Date: 18/09/1987 Revocation Date: 16/12/1992
E	196m SW	HENSHAW ST.SJC. PORT T	Effluent Type: UNSPECIFIED Permit Number: BB4025504 Permit Version: 1 Receiving Water: UNNAMED	Status: REVOKED (WRA 91, S88 & SCHD 10 AS AMENDED BY ENV Issue date: 19/07/1978 Effective Date: 19/07/1978 Revocation Date: 31/03/2004
17	314m SW	CSO 104 NEWBRIDGE ROAD PUMPING STAT, CSO 104, NEWBRIDGE ROAD PUMPING STATION, PORT TALBOT, NEATH PORT TALBOT CBC	Effluent Type: SEWAGE DISCHARGES - PUMPING STATION - WATER COMPANY Permit Number: BB4025501 Permit Version: 2 Receiving Water: River Tawe	Status: Effective Issue date: 31/03/2004 Effective Date: 01/04/2004 Revocation Date: -
H	368m SW	GASWORKS SEWER JUNCTION CHAMBER PO, GASWORKS SEWER JUNCTION CHAMBER, CHAMBER PORT TALBOT, PORT TALBOT, PORT TALBO	Effluent Type: SEWAGE DISCHARGES - SEWER STORM OVERFLOW - WATER COMPANY Permit Number: BB4025503 Permit Version: 1 Receiving Water: River Tawe	Status: Surrendered Issue date: 19/07/1978 Effective Date: 19/07/1978 Revocation Date: -



ID	Location	Address	Details	
J	399m SW	PORT TALBOT RESIDENTIAL DEVELOPMENT, NEWBRIDGE ROAD	Effluent Type: UNSPECIFIED Permit Number: BP0105101 Permit Version: 2 Receiving Water: RIVER AFAN	Status: CONSENT EXPIRED - TIME LIMIT Issue date: 03/11/1988 Effective Date: 03/11/1988 Revocation Date: 29/09/1992
J	399m SW	PORT TALBOT RESIDENTIAL DEVELOPMENT, NEWBRIDGE ROAD	Effluent Type: UNSPECIFIED Permit Number: BP0105101 Permit Version: 1 Receiving Water: RIVER AFAN	Status: REVOKED - UNSPECIFIED Issue date: 01/01/1901 Effective Date: 01/01/1901 Revocation Date: 02/11/1988

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

4.14 Pollutant release to surface waters (Red List)

Records within 500m **0**

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

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

4.15 Pollutant release to public sewer

Records within 500m **0**

Discharges of Special Category Effluents to the public sewer.

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

4.16 List 1 Dangerous Substances

Records within 500m **0**

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

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

4.17 List 2 Dangerous Substances

Records within 500m **0**

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

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



4.18 Pollution Incidents (EA/NRW)

Records within 500m

25

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

Features are displayed on the Current industrial land use map on **page 57**

ID	Location	Details	
A	9m NE	Incident Date: 28/08/2016 Incident Identification: 1700078 Pollutant: - Pollutant Description: -	Water Impact: No Details Land Impact: Category 4 (No Impact) Air Impact: No Details
A	9m NE	Incident Date: 28/08/2016 Incident Identification: 1700078 Pollutant: Oils and Fuels Pollutant Description: Lubricating Oils	Water Impact: No Details Land Impact: Category 4 (No Impact) Air Impact: No Details
A	57m SE	Incident Date: 03/09/2001 Incident Identification: 30441 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
A	57m SE	Incident Date: 03/09/2001 Incident Identification: 30441 Pollutant: General Biodegradable Materials and Wastes Pollutant Description: Food and Drink	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
A	57m SE	Incident Date: 03/09/2001 Incident Identification: 30441 Pollutant: General Biodegradable Materials and Wastes:General Biodegradable Materials and Wastes Pollutant Description: Food and Drink:Other General Biodegradable Material or Waste	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
A	101m SE	Incident Date: 09/04/2015 Incident Identification: 1327295 Pollutant: - Pollutant Description: -	Water Impact: - Land Impact: - Air Impact: -
A	102m SE	Incident Date: 30/05/2014 Incident Identification: 1240550 Pollutant: - Pollutant Description: -	Water Impact: - Land Impact: - Air Impact: -



ID	Location	Details	
C	146m SW	Incident Date: 28/08/2001 Incident Identification: 27243 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
F	195m SE	Incident Date: 27/02/2014 Incident Identification: 1212608 Pollutant: Specific Waste Materials Pollutant Description: Tyres	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
9	205m S	Incident Date: 29/03/2004 Incident Identification: 225980 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 2 (Significant)
11	238m S	Incident Date: 17/02/2016 Incident Identification: 1411933 Pollutant: Multiple Pollutants Pollutant Description: 2 Pollutants Including Vehicles and Vehicle Parts	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
F	239m SE	Incident Date: 22/11/2016 Incident Identification: 1607007 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: No Details Land Impact: No Details Air Impact: Category 3 (Minor)
F	239m SE	Incident Date: 22/11/2016 Incident Identification: 1607007 Pollutant: - Pollutant Description: -	Water Impact: No Details Land Impact: No Details Air Impact: Category 3 (Minor)
G	279m E	Incident Date: 12/07/2016 Incident Identification: 1603860 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: No Details Land Impact: Category 2 (Significant) Air Impact: Category 2 (Significant)
G	289m E	Incident Date: 28/05/2003 Incident Identification: 161389 Pollutant: Oils and Fuel Pollutant Description: Mixed/Waste Oils	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
H	367m SW	Incident Date: 29/01/2003 Incident Identification: 134055 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
18	371m E	Incident Date: 13/11/2002 Incident Identification: 126446 Pollutant: Inert Materials and Wastes Pollutant Description: Construction and Demolition Materials and Wastes	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)



ID	Location	Details	
I	376m NW	Incident Date: 28/08/2001 Incident Identification: 27380 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
I	376m NW	Incident Date: 28/08/2001 Incident Identification: 27380 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
19	403m SW	Incident Date: 04/01/2005 Incident Identification: 285528 Pollutant: Organic Chemicals/Products Pollutant Description: Other Organic Chemical or Product	Water Impact: Category 4 (No Impact) Land Impact: Category 2 (Significant) Air Impact: Category 4 (No Impact)
20	427m S	Incident Date: 02/11/2001 Incident Identification: 40600 Pollutant: Inert Materials and Wastes Pollutant Description: Rocks and Gravel	Water Impact: Category 3 (Minor) Land Impact: Category 3 (Minor) Air Impact: Category 4 (No Impact)
21	444m NW	Incident Date: 02/10/2002 Incident Identification: 112005 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Other Atmospheric Pollutant or Effect	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
K	478m SW	Incident Date: 01/08/2001 Incident Identification: 20916 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Dust	Water Impact: Category 4 (No Impact) Land Impact: Category 3 (Minor) Air Impact: Category 3 (Minor)
K	478m SW	Incident Date: 09/08/2003 Incident Identification: 180657 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Steam	Water Impact: Category 4 (No Impact) Land Impact: Category 4 (No Impact) Air Impact: Category 3 (Minor)
23	484m S	Incident Date: 09/03/2015 Incident Identification: 1319343 Pollutant: Atmospheric Pollutants and Effects Pollutant Description: Smoke	Water Impact: - Land Impact: Category 4 (No Impact) Air Impact: Category 4 (No Impact)

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

4.19 Pollution inventory substances

Records within 500m

0

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



complete year available.

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

4.20 Pollution inventory waste transfers

Records within 500m

0

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

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

4.21 Pollution inventory radioactive waste

Records within 500m

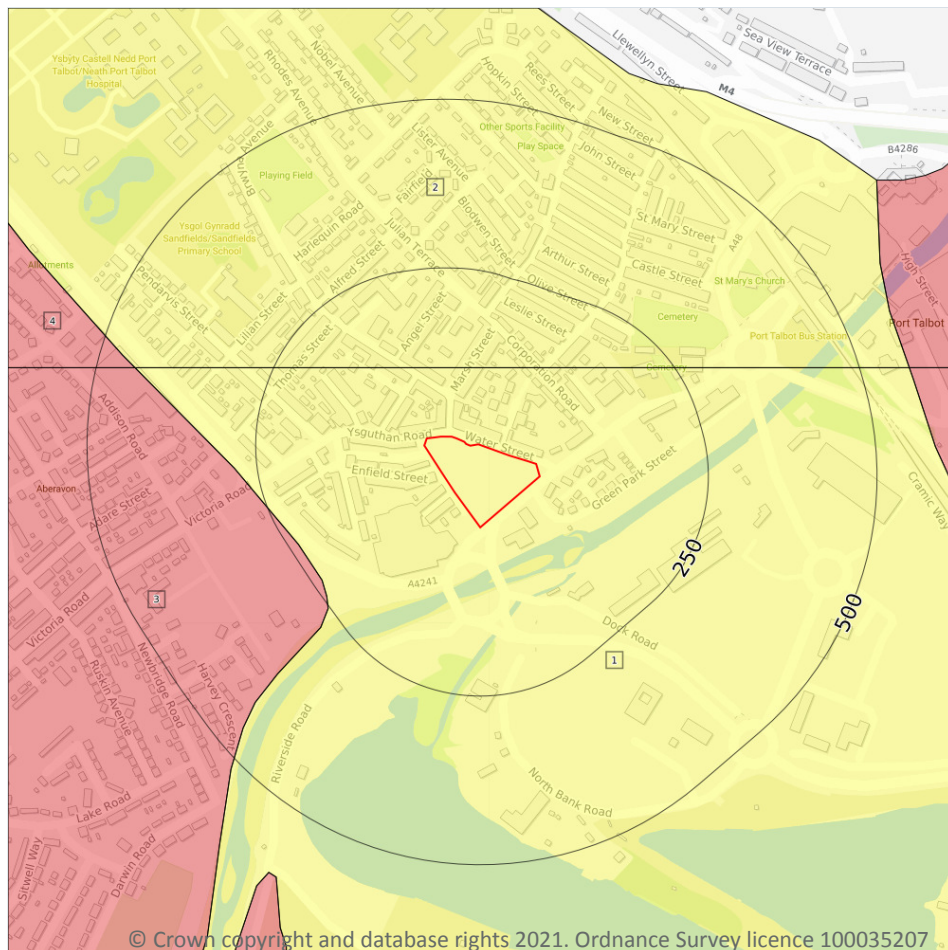
0

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

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



5 Hydrogeology - Superficial aquifer



- Site Outline**
- Search buffers in metres (m)**
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive
 - Unknown

5.1 Superficial aquifer

Records within 500m

4

Aquifer status of groundwater held within superficial geology.

Features are displayed on the Hydrogeology map on **page 69**

ID	Location	Designation	Description
1	On site	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type
2	102m N	Secondary Undifferentiated	Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type

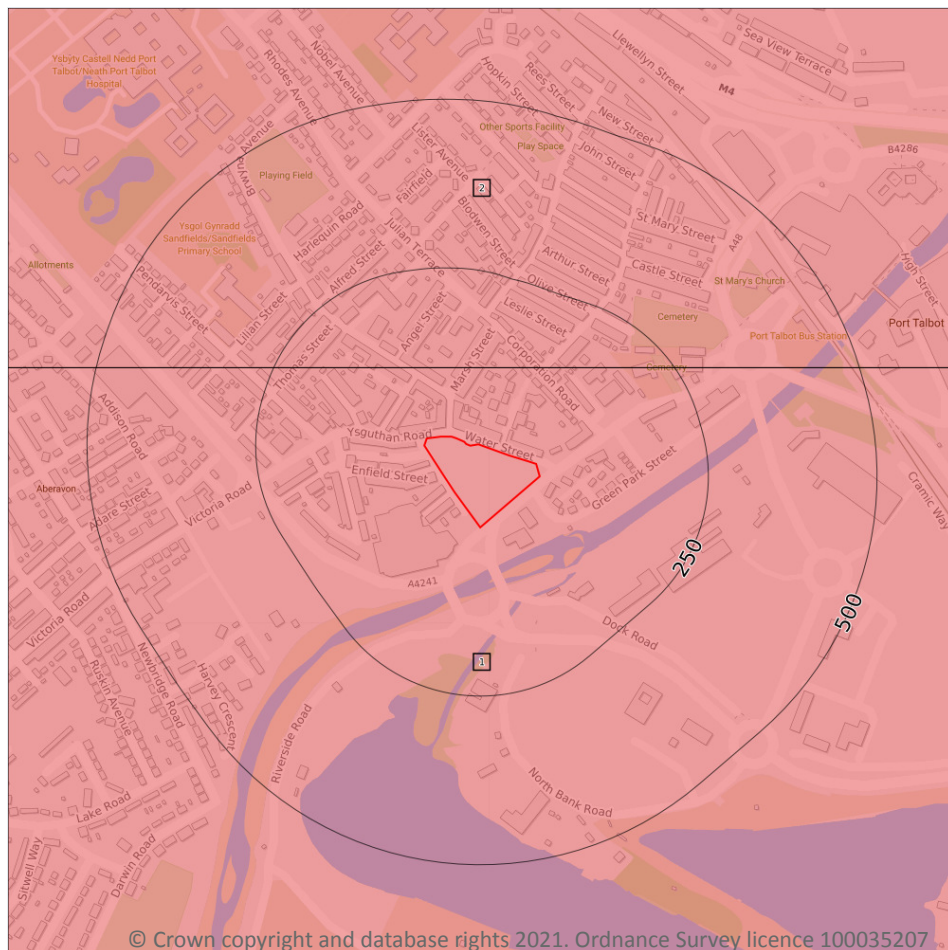


ID	Location	Designation	Description
3	236m SW	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
4	444m W	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers

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



Bedrock aquifer



- Site Outline
- Search buffers in metres (m)
- Principal
 - Secondary A
 - Secondary B
 - Secondary Undifferentiated
 - Unproductive

5.2 Bedrock aquifer

Records within 500m

2

Aquifer status of groundwater held within bedrock geology.

Features are displayed on the Bedrock aquifer map on **page 71**

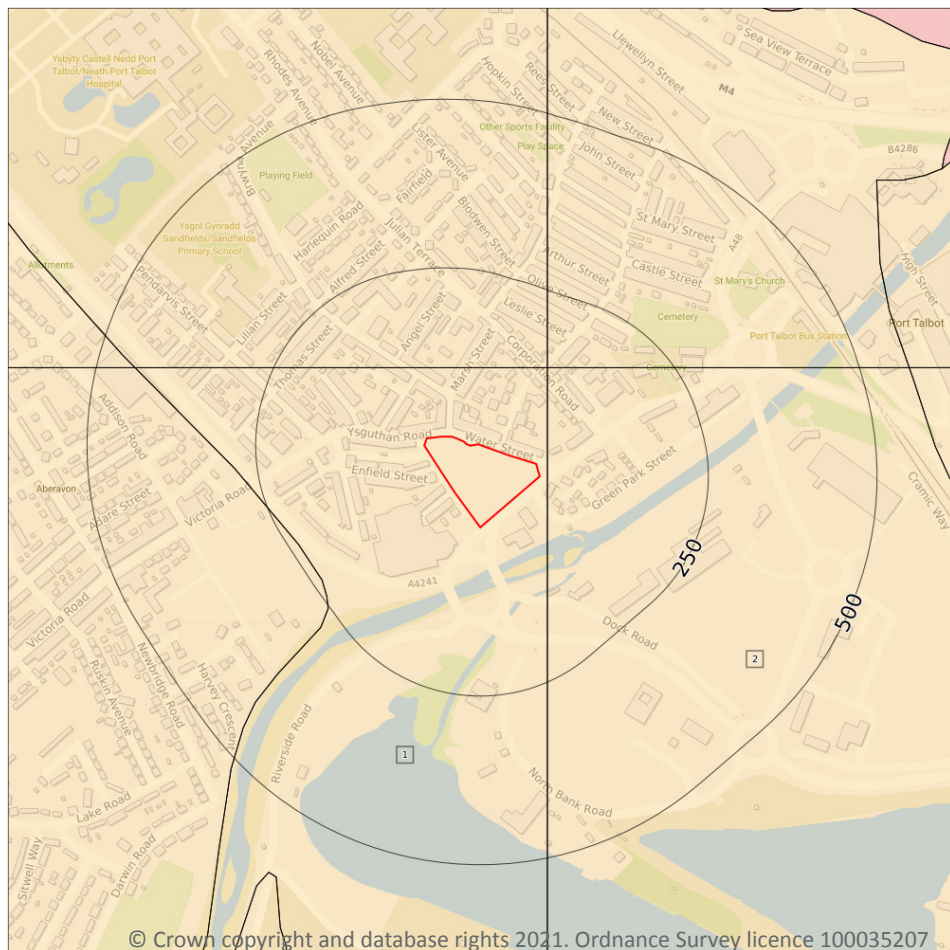
ID	Location	Designation	Description
1	On site	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers
2	102m N	Secondary A	Permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers



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



Groundwater vulnerability



Site Outline

Search buffers in metres (m)

Superficial vulnerability

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

Bedrock vulnerability

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

Other information

- Unproductive aquifer
- Soluble rock risk
- Local information

5.3 Groundwater vulnerability

Records within 50m

2

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties within a one kilometre square grid.

Groundwater vulnerability is described as High, Medium or Low as follows:

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

Features are displayed on the Groundwater vulnerability map on **page 73**



ID	Location	Summary	Soil / surface	Superficial geology	Bedrock geology
1	On site	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: High	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures
2	11m E	Summary Classification: Secondary superficial aquifer - High Vulnerability Combined classification: Productive Bedrock Aquifer, Productive Superficial Aquifer	Leaching class: High Infiltration value: >70% Dilution value: >550mm/year	Vulnerability: High Aquifer type: Secondary Thickness: >10m Patchiness value: >90% Recharge potential: Medium	Vulnerability: Low Aquifer type: Secondary Flow mechanism: Well connected fractures

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

5.4 Groundwater vulnerability- soluble rock risk

Records on site

0

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

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

5.5 Groundwater vulnerability- local information

Records on site

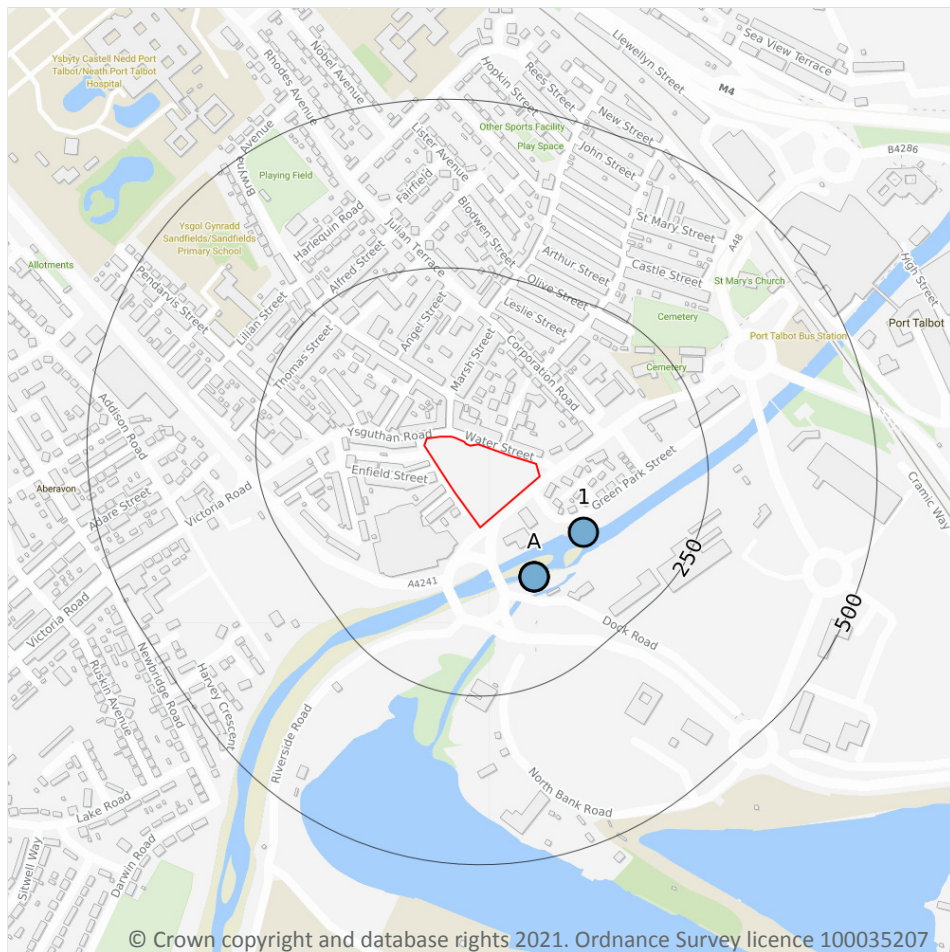
0

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

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



Abstractions and Source Protection Zones



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- Site Outline
- Search buffers in metres (m)**
- Source Protection Zone 1
Inner catchment
- Source Protection Zone 2
Outer catchment
- Source Protection Zone 3
Total catchment
- Source Protection Zone 4
Zone of Special Interest
- Source Protection Zone 1c
Inner catchment - confined aquifer
- Source Protection Zone 2c
Outer catchment - confined aquifer
- Source Protection Zone 3c
Total catchment - confined aquifer
- Drinking water abstraction licences
Polygon features
- Drinking water abstraction licences
Linear features
- Groundwater abstraction licence (point)
- Groundwater abstraction licence (area)
- Groundwater abstraction licence (linear)
- Surface Water Abstractions (point)
- Surface Water Abstractions (area)
- Surface Water Abstractions (linear)

5.6 Groundwater abstractions

Records within 2000m

0

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

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



5.7 Surface water abstractions

Records within 2000m

18

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

Features are displayed on the Abstractions and Source Protection Zones map on **page 75**

ID	Location	Details	
1	105m SE	Status: Active Licence No: WA/058/0061/007 Details: Unknown (Impounding) - Direct Source: - Point: - Data Type: Point Name: - Easting: 276054 Northing: 189756	Annual Volume (m ³): 0 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 2012-05-29 00:00:00.0000000 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
A	107m SE	Status: Historical Licence No: 21/58/61/0009 Details: Process Water Direct Source: EAW Surface Water Point: RIVER AFAN TO PORT TALBOT DOCKS Data Type: Point Name: Tata Steel UK Limited Easting: 275980 Northing: 189690	Annual Volume (m ³): 14,933,610 Max Daily Volume (m ³): 40914 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/11/2010 Version End Date: -
A	107m SE	Status: Historical Licence No: 21/58/61/0009 Details: Evaporative Cooling Direct Source: EAW Surface Water Point: RIVER AFAN TO PORT TALBOT DOCKS Data Type: Point Name: Tata Steel UK Limited Easting: 275980 Northing: 189690	Annual Volume (m ³): 14,933,610 Max Daily Volume (m ³): 40914 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/11/2010 Version End Date: -
A	107m SE	Status: Active Licence No: 21/58/61/0009 Details: Evaporative Cooling - High Direct Source: - Point: - Data Type: Point Name: - Easting: 275980 Northing: 189690	Annual Volume (m ³): 14,933,610 Max Daily Volume (m ³): 40,912.80 Original Application No: - Original Start Date: 2010-11-12 00:00:00.0000000 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -



ID	Location	Details	
A	107m SE	Status: Active Licence No: 21/58/61/0009 Details: Process Water - Medium Direct Source: - Point: - Data Type: Point Name: - Easting: 275980 Northing: 189690	Annual Volume (m ³): 14,933,610 Max Daily Volume (m ³): 40,912.80 Original Application No: - Original Start Date: 2010-11-12 00:00:00.0000000 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	942m S	Status: Historical Licence No: 21/58/61/0042 Details: Dust Suppression Direct Source: EAW Surface Water Point: PORT TALBOT DOCKS PORT TALBOT Data Type: Point Name: Civil and Marine Ltd Easting: 276230 Northing: 188880	Annual Volume (m ³): 5000 Max Daily Volume (m ³): 49.68 Original Application No: - Original Start Date: 15/04/2002 Expiry Date: 14/04/2017 Issue No: 4 Version Start Date: 21/05/2010 Version End Date: -
-	942m S	Status: Historical Licence No: 21/58/61/0042 Details: Process Water Direct Source: EAW Surface Water Point: PORT TALBOT DOCKS PORT TALBOT Data Type: Point Name: Civil and Marine Ltd Easting: 276230 Northing: 188880	Annual Volume (m ³): 8000 Max Daily Volume (m ³): 49.68 Original Application No: - Original Start Date: 15/04/2002 Expiry Date: 31/03/2029 Issue No: 5 Version Start Date: 01/05/2014 Version End Date: -
-	942m S	Status: Active Licence No: 21/58/61/0042 Details: Process Water - Medium Direct Source: - Point: - Data Type: Point Name: - Easting: 276230 Northing: 188880	Annual Volume (m ³): 8,000 Max Daily Volume (m ³): 397.44 Original Application No: - Original Start Date: 2014-05-01 00:00:00.0000000 Expiry Date: 2029-03-31 00:00:00.0000000 Issue No: - Version Start Date: - Version End Date: -
-	965m S	Status: Historical Licence No: 21/58/61/0042 Details: Dust Suppression Direct Source: EAW Surface Water Point: CIVIL & MARINE SLAG CEMENT LTD QUAY AT PORT TALBOT DOCKS Data Type: Point Name: Civil and Marine Ltd Easting: 276240 Northing: 188860	Annual Volume (m ³): 5000 Max Daily Volume (m ³): 49.68 Original Application No: - Original Start Date: 15/04/2002 Expiry Date: 14/04/2017 Issue No: 3 Version Start Date: 12/09/2008 Version End Date: -



ID	Location	Details	
-	1333m SE	Status: Historical Licence No: WA/058/0061/004 Details: Dust Suppression Direct Source: EAW Surface Water Point: PORT TALBOT DOCK AT MARGAM MOORS Data Type: Point Name: Costain Limited Easting: 276967 Northing: 188933	Annual Volume (m ³): 36800 Max Daily Volume (m ³): 200 Original Application No: - Original Start Date: 05/08/2011 Expiry Date: 31/12/2014 Issue No: 1 Version Start Date: 05/08/2011 Version End Date: -
-	1512m SE	Status: Historical Licence No: 21/58/61/0024 Details: Evaporative Cooling Direct Source: EAW Surface Water Point: RIVER FFRWDWYLLT Data Type: Point Name: Tata Steel UK Limited Easting: 277150 Northing: 188870	Annual Volume (m ³): 2,273,000 Max Daily Volume (m ³): 9819.36 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/11/2010 Version End Date: -
-	1512m SE	Status: Historical Licence No: 21/58/61/0024 Details: Process Water Direct Source: EAW Surface Water Point: RIVER FFRWDWYLLT Data Type: Point Name: Tata Steel UK Limited Easting: 277150 Northing: 188870	Annual Volume (m ³): 2,273,000 Max Daily Volume (m ³): 9819.36 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/11/2010 Version End Date: -
-	1512m SE	Status: Active Licence No: 21/58/61/0024 Details: Process Water - Medium Direct Source: - Point: - Data Type: Point Name: - Easting: 277150 Northing: 188870	Annual Volume (m ³): 2,273,000 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 2010-11-12 00:00:00.0000000 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1512m SE	Status: Active Licence No: 21/58/61/0024 Details: Evaporative Cooling - High Direct Source: - Point: - Data Type: Point Name: - Easting: 277150 Northing: 188870	Annual Volume (m ³): 2,273,000 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 2010-11-12 00:00:00.0000000 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -



ID	Location	Details	
-	1534m SE	Status: Historical Licence No: 21/58/61/0012 Details: Non-Evaporative Cooling Direct Source: EAW Surface Water Point: PORT TALBOT DOCKS Data Type: Point Name: Tata Steel UK Limited Easting: 276890 Northing: 188590	Annual Volume (m ³): 206,615,700 Max Daily Volume (m ³): 590980 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/11/2010 Version End Date: -
-	1534m SE	Status: Historical Licence No: 21/58/61/0012 Details: Process Water Direct Source: EAW Surface Water Point: PORT TALBOT DOCKS Data Type: Point Name: Tata Steel UK Limited Easting: 276890 Northing: 188590	Annual Volume (m ³): 206,615,700 Max Daily Volume (m ³): 590980 Original Application No: - Original Start Date: 25/03/1966 Expiry Date: - Issue No: 101 Version Start Date: 12/11/2010 Version End Date: -
-	1534m SE	Status: Active Licence No: 21/58/61/0012 Details: Non Evaporative Cooling - Low Direct Source: - Point: - Data Type: Point Name: - Easting: 276890 Northing: 188590	Annual Volume (m ³): 206,615,700 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 2010-11-12 00:00:00.0000000 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -
-	1534m SE	Status: Active Licence No: 21/58/61/0012 Details: Process Water - Medium Direct Source: - Point: - Data Type: Point Name: - Easting: 276890 Northing: 188590	Annual Volume (m ³): 206,615,700 Max Daily Volume (m ³): - Original Application No: - Original Start Date: 2010-11-12 00:00:00.0000000 Expiry Date: - Issue No: - Version Start Date: - Version End Date: -

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

5.8 Potable abstractions

Records within 2000m

0

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

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



5.9 Source Protection Zones

Records within 500m

0

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

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

5.10 Source Protection Zones (confined aquifer)

Records within 500m

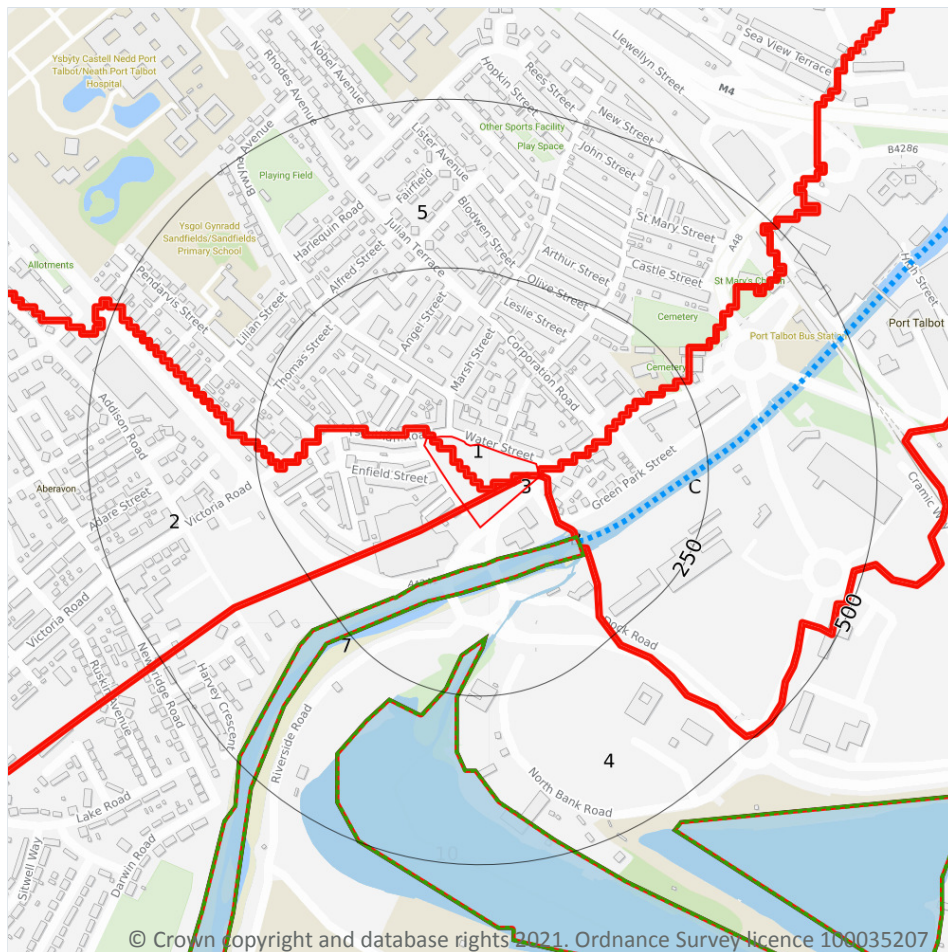
0

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

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



6 Hydrology



- Site Outline
- Search buffers in metres (m)
- Water Network (OS MasterMap)
- Surface water features (wider than 5m)
- Surface water features (narrower than 5m)
- ⋯ WFD River, canal and surface water transfer water bodies
- WFD Lake water bodies
- WFD Transitional and coastal water bodies
- WFD Surface water body catchments boundaries
- WFD Groundwater body boundaries

6.1 Water Network (OS MasterMap)

Records within 250m

16

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

Features are displayed on the Hydrology map on **page 81**

ID	Location	Type of water feature	Ground level	Permanence	Name
7	86m S	Tidal river or stream.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan



ID	Location	Type of water feature	Ground level	Permanence	Name
B	88m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	88m SE	Inland river not influenced by normal tidal action.	Underground	Watercourse contains water year round (in normal circumstances)	-
B	88m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	94m SE	Tidal river or stream.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan
B	94m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan
B	100m SE	Tidal river or stream.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan
B	100m SE	Tidal river or stream.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan
B	113m SE	Tidal river or stream.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan
B	119m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan
B	122m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan
C	122m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan
B	124m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
B	127m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	Afon Afan



ID	Location	Type of water feature	Ground level	Permanence	Name
B	131m SE	Inland river not influenced by normal tidal action.	On ground surface	Watercourse contains water year round (in normal circumstances)	-
10	165m S	Lake, loch or reservoir.	On ground surface	Watercourse contains water year round (in normal circumstances)	-

This data is sourced from the Ordnance Survey.

6.2 Surface water features

Records within 250m

4

Covering rivers, streams and lakes (some overlap with OS MasterMap Water Network data in previous section) but additionally covers smaller features such as ponds. Rivers and streams narrower than 5m are represented as a single line. Lakes, ponds and rivers or streams wider than 5m are represented as polygons. Features are displayed on the Hydrology map on **page 81**

This data is sourced from the Ordnance Survey.

6.3 WFD Surface water body catchments

Records on site

4

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

Features are displayed on the Hydrology map on **page 81**

ID	Location	Type	Water body catchment	Water body ID	Operational catchment	Management catchment
2	On site	Coastal catchment	Not part of a river WB catchment	331	Neath	Tawe to Cadoxton
3	On site	Coastal catchment	Not part of a river WB catchment	330	Afan	Tawe to Cadoxton
4	On site	Coastal catchment	Not part of a river WB catchment	202	Afan	Tawe to Cadoxton
5	On site	River WB catchment	Baglan Brook - headwaters to conf with River Neath	GB110058026350	Neath	Tawe to Cadoxton

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



6.4 WFD Surface water bodies

Records identified

2

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

Features are displayed on the Hydrology map on **page 81**

ID	Location	Type	Name	Water body ID	Overall rating	Chemical rating	Ecological rating	Year
6	51m SE	Transitional	AFAN ESTUARY INCL DOCKS	GB541005800600	Moderate	Good	Moderate	2016
-	3763m NW	River	Baglan Brook - headwaters to conf with River Neath	GB110058026350	Moderate	Good	Moderate	2016

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

6.5 WFD Groundwater bodies

Records on site

1

Groundwater bodies are also covered by the Directive and the same regime of objectives and reporting detailed in the previous section is in place.

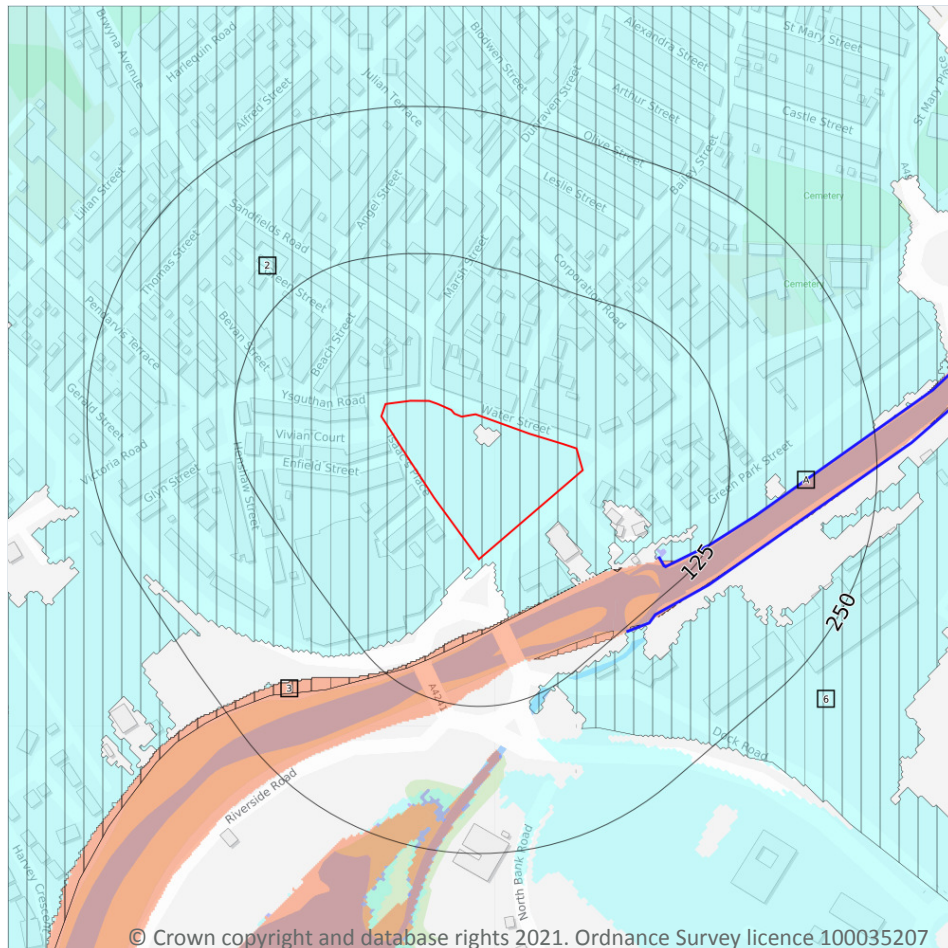
Features are displayed on the Hydrology map on **page 81**

ID	Location	Name	Water body ID	Overall rating	Chemical rating	Quantitative	Year
1	On site	Swansea Carboniferous Coal Measures	GB41002G201000	Poor	Poor	Good	2016

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



7 River and coastal flooding



- Site Outline
- Search buffers in metres (m)
- Environment Agency river and coastal flooding:
 - High
 - Medium
 - Low
 - Very Low
- Historical Flood Events
- Areas Used for Flood Storage
- Areas Benefiting from Flood Defences
- Flood Defences

7.1 Risk of Flooding from Rivers and Sea (RoFRaS)

Records within 50m

1

The chance of flooding from rivers and/or the sea in any given year, based on cells of 50m. Each cell is allocated one of four flood risk categories, taking into account flood defences and their condition; Very low (less than 1 in 1000 chance in any given year), Low (less than 1 in 100 but greater than or equal to 1 in 1000 chance), Medium (less than 1 in 30 but greater than or equal to 1 in 100 chance) or High (greater than or equal to 1 in 30 chance).

Features are displayed on the River and coastal flooding map on **page 85**

Distance	RoFRaS flood risk
On site	Low
0 - 50m	Low



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

7.2 Historical Flood Events

Records within 250m

0

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

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

7.3 Flood Defences

Records within 250m

2

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

Features are displayed on the River and coastal flooding map on **page 85**

ID	Location	Update
A	98m SE	01/09/2021
A	128m SE	01/09/2021

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

7.4 Areas Benefiting from Flood Defences

Records within 250m

86

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

Features are displayed on the River and coastal flooding map on **page 85**

ID	Location	
2	On site	Area benefiting from flood defences
3	55m SE	Area benefiting from flood defences
A	63m SE	Area benefiting from flood defences
A	64m SE	Area benefiting from flood defences



ID	Location	
A	65m SE	Area benefiting from flood defences
A	66m SE	Area benefiting from flood defences
A	67m SE	Area benefiting from flood defences
A	68m SE	Area benefiting from flood defences
A	68m SE	Area benefiting from flood defences
A	69m SE	Area benefiting from flood defences
A	70m SE	Area benefiting from flood defences
A	71m SE	Area benefiting from flood defences
A	72m SE	Area benefiting from flood defences
A	73m SE	Area benefiting from flood defences
A	73m SE	Area benefiting from flood defences
A	74m SE	Area benefiting from flood defences
A	75m SE	Area benefiting from flood defences
A	76m SE	Area benefiting from flood defences
A	76m SE	Area benefiting from flood defences
A	77m SE	Area benefiting from flood defences
A	81m SE	Area benefiting from flood defences
A	82m SE	Area benefiting from flood defences
A	89m SE	Area benefiting from flood defences
A	97m SE	Area benefiting from flood defences
A	102m SE	Area benefiting from flood defences
6	117m SE	Area benefiting from flood defences
A	129m SE	Area benefiting from flood defences
A	132m SE	Area benefiting from flood defences
A	135m SE	Area benefiting from flood defences
A	136m SE	Area benefiting from flood defences
A	137m SE	Area benefiting from flood defences
A	137m SE	Area benefiting from flood defences

ID	Location	
A	138m E	Area benefiting from flood defences
A	138m SE	Area benefiting from flood defences
A	139m SE	Area benefiting from flood defences
A	140m SE	Area benefiting from flood defences
A	140m E	Area benefiting from flood defences
A	140m SE	Area benefiting from flood defences
A	141m SE	Area benefiting from flood defences
A	141m E	Area benefiting from flood defences
A	142m SE	Area benefiting from flood defences
A	142m SE	Area benefiting from flood defences
A	143m E	Area benefiting from flood defences
A	144m SE	Area benefiting from flood defences
A	144m E	Area benefiting from flood defences
A	147m E	Area benefiting from flood defences
A	148m E	Area benefiting from flood defences
A	150m E	Area benefiting from flood defences
A	151m E	Area benefiting from flood defences
A	154m E	Area benefiting from flood defences
A	155m E	Area benefiting from flood defences
A	158m E	Area benefiting from flood defences
A	159m E	Area benefiting from flood defences
A	160m E	Area benefiting from flood defences
A	163m E	Area benefiting from flood defences
A	164m E	Area benefiting from flood defences
A	167m E	Area benefiting from flood defences
A	168m E	Area benefiting from flood defences
A	171m E	Area benefiting from flood defences
A	172m E	Area benefiting from flood defences

ID	Location	
A	173m E	Area benefiting from flood defences
A	176m E	Area benefiting from flood defences
A	176m E	Area benefiting from flood defences
A	180m E	Area benefiting from flood defences
A	182m E	Area benefiting from flood defences
A	186m E	Area benefiting from flood defences
A	190m E	Area benefiting from flood defences
A	195m E	Area benefiting from flood defences
A	196m E	Area benefiting from flood defences
A	200m E	Area benefiting from flood defences
A	205m E	Area benefiting from flood defences
A	207m E	Area benefiting from flood defences
A	211m E	Area benefiting from flood defences
A	216m E	Area benefiting from flood defences
A	217m E	Area benefiting from flood defences
A	222m E	Area benefiting from flood defences
A	227m E	Area benefiting from flood defences
A	227m E	Area benefiting from flood defences
A	228m E	Area benefiting from flood defences
A	231m E	Area benefiting from flood defences
A	233m E	Area benefiting from flood defences
A	233m E	Area benefiting from flood defences
A	238m E	Area benefiting from flood defences
A	240m E	Area benefiting from flood defences
A	243m E	Area benefiting from flood defences
A	246m E	Area benefiting from flood defences

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



7.5 Flood Storage Areas

Records within 250m

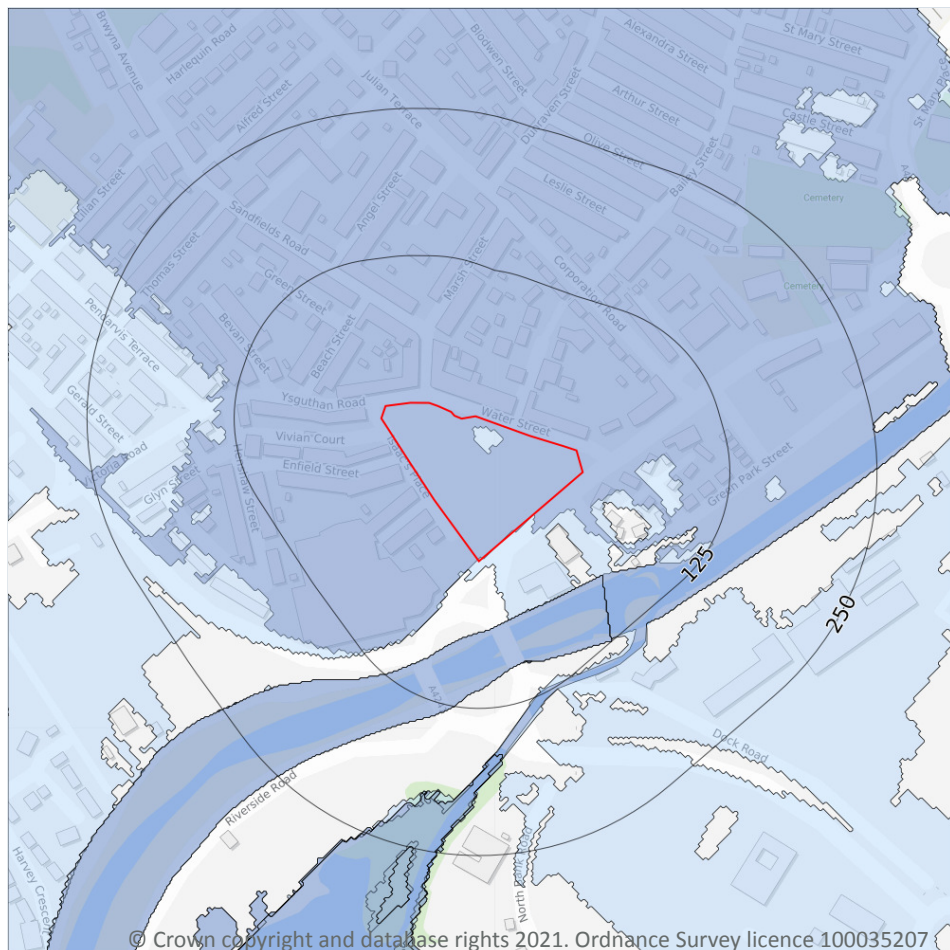
0

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

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



River and coastal flooding - Flood Zones



- Site Outline
- Search buffers in metres (m)
- Flood zone 2
- Flood zone 3

7.6 Flood Zone 2

Records within 50m

1

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

Features are displayed on the River and coastal flooding map on **page 85**

Location	Type
On site	Zone 2 - (Fluvial /Tidal Models)

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



7.7 Flood Zone 3

Records within 50m

1

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

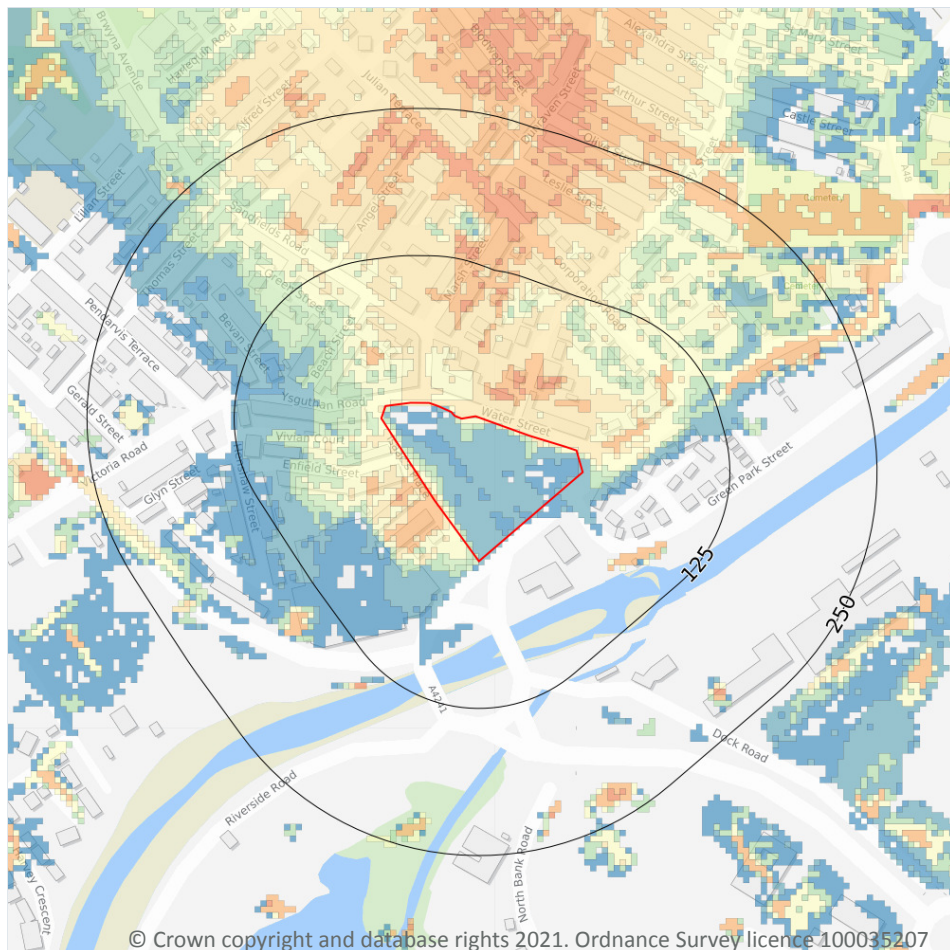
Features are displayed on the River and coastal flooding map on **page 85**

Location	Type
On site	Zone 3 - (Fluvial Models)

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



8 Surface water flooding



— Site Outline

Search buffers in metres (m)

1 in 1000 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 250 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 100 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

1 in 30 return period

- Depth between 0.1m - 0.3m
- Depth between 0.3m - 1.0m
- Depth greater than 1.0m

8.1 Surface water flooding

Highest risk on site

1 in 30 year, 0.1m - 0.3m

Highest risk within 50m

1 in 30 year, 0.3m - 1.0m

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

Features are displayed on the Surface water flooding map on **page 93**

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

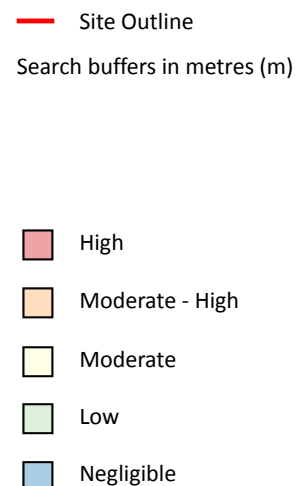
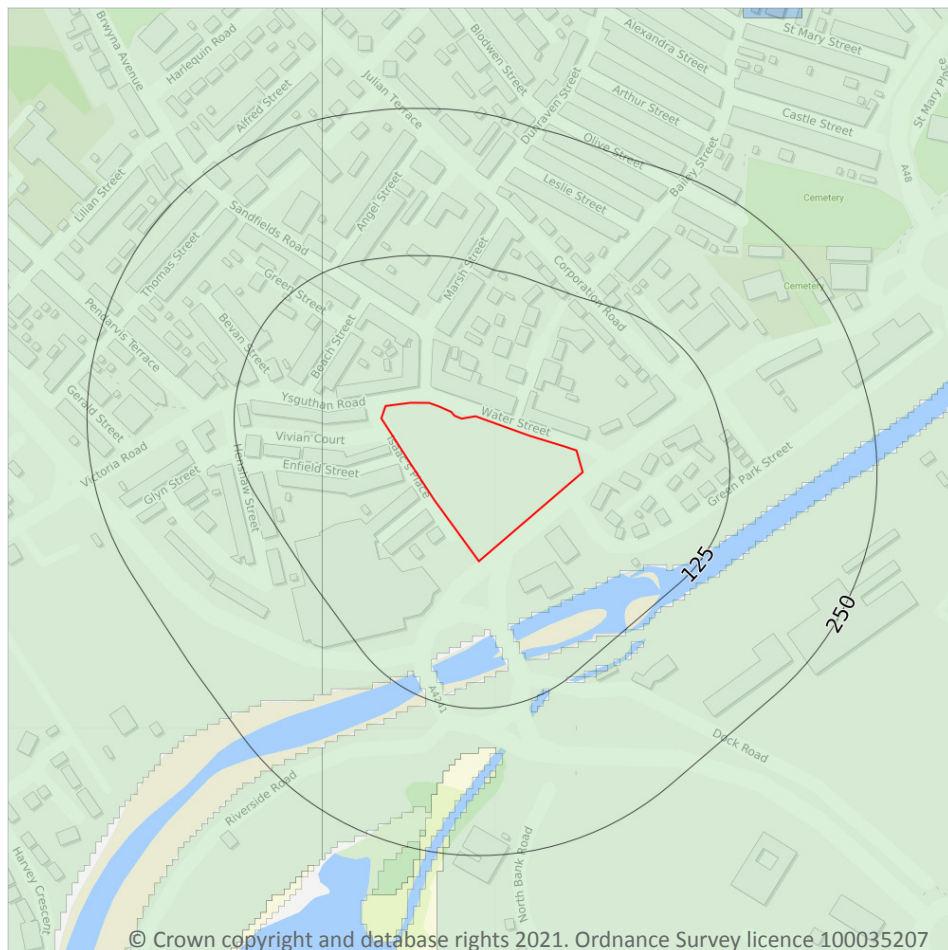
a site. The table below shows the maximum flood depths for a range of return periods for the site.

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

This data is sourced from Ambiental Risk Analytics.



9 Groundwater flooding



9.1 Groundwater flooding

Highest risk on site

Low

Highest risk within 50m

Low

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

Features are displayed on the Groundwater flooding map on **page 95**

This data is sourced from Ambiantal Risk Analytics.

10 Environmental designations



- Site Outline
- Search buffers in metres (m)
- Designated Ancient Woodland

10.1 Sites of Special Scientific Interest (SSSI)

Records within 2000m

0

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

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



10.2 Conserved wetland sites (Ramsar sites)

Records within 2000m**0**

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

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

10.3 Special Areas of Conservation (SAC)

Records within 2000m**0**

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

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

10.4 Special Protection Areas (SPA)

Records within 2000m**0**

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

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

10.5 National Nature Reserves (NNR)

Records within 2000m**0**

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

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

10.6 Local Nature Reserves (LNR)

Records within 2000m

0

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

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

10.7 Designated Ancient Woodland

Records within 2000m

3

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

Features are displayed on the Environmental designations map on **page 96**

ID	Location	Name	Woodland Type
1	1518m NE	Unknown	Ancient Semi Natural Woodland
-	1693m NE	Unknown	Ancient Semi Natural Woodland
-	1905m E	Unknown	Ancient Semi Natural Woodland

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

10.8 Biosphere Reserves

Records within 2000m

0

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

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



10.9 Forest Parks

Records within 2000m**0**

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

This data is sourced from the Forestry Commission.

10.10 Marine Conservation Zones

Records within 2000m**0**

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

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

10.11 Green Belt

Records within 2000m**0**

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

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

10.12 Proposed Ramsar sites

Records within 2000m**0**

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

This data is sourced from Natural England.

10.13 Possible Special Areas of Conservation (pSAC)

Records within 2000m**0**

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

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



10.14 Potential Special Protection Areas (pSPA)

Records within 2000m

0

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

This data is sourced from Natural England.

10.15 Nitrate Sensitive Areas

Records within 2000m

0

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

This data is sourced from Natural England.

10.16 Nitrate Vulnerable Zones

Records within 2000m

0

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

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

SSSI Impact Zones and Units

10.17 SSSI Impact Risk Zones

Records on site	0
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Developed to allow rapid initial assessment of the potential risks to SSSIs posed by development proposals. They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts.

This data is sourced from Natural England.

10.18 SSSI Units

Records within 2000m	0
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Divisions of SSSIs used to record management and condition details. Units are the smallest areas for which Natural England gives a condition assessment, however, the size of units varies greatly depending on the types of management and the conservation interest.

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



11 Visual and cultural designations

11.1 World Heritage Sites

Records within 250m

0

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

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

11.2 Area of Outstanding Natural Beauty

Records within 250m

0

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

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

11.3 National Parks

Records within 250m

0

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

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

11.4 Listed Buildings

Records within 250m

0

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



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

11.5 Conservation Areas

Records within 250m

0

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

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

11.6 Scheduled Ancient Monuments

Records within 250m

0

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

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

11.7 Registered Parks and Gardens

Records within 250m

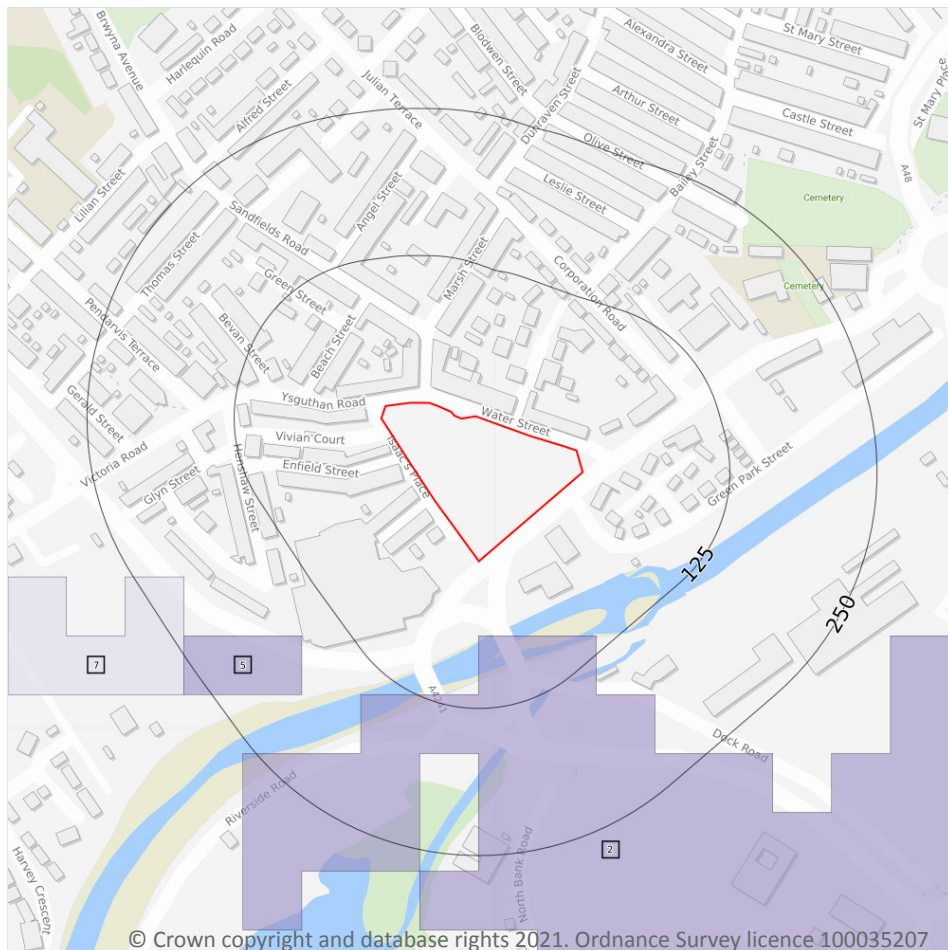
0

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

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



12 Agricultural designations



- Site Outline
- Search buffers in metres (m)
- Grade 1 - excellent quality
- Grade 2 - very good quality
- Grade 3a - good quality
- Grade 3b - moderate quality
- Grade 4 - poor quality
- Grade 5 - very poor quality
- Timber felling licences
- Open Access land

12.1 Agricultural Land Classification

Records within 250m

3

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

Features are displayed on the Agricultural designations map on **page 104**

ID	Location	Classification	Description
2	63m S	Grade 4	Poor quality agricultural land
5	159m SW	Grade 4	Poor quality agricultural land
7	214m SW	Grade 3b	Moderate quality agricultural land



This data is sourced from Natural Resources Wales.

12.2 Open Access Land

Records within 250m

0

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

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

12.3 Tree Felling Licences

Records within 250m

0

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

This data is sourced from the Forestry Commission.

12.4 Environmental Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.

12.5 Countryside Stewardship Schemes

Records within 250m

0

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

This data is sourced from Natural England.



13 Habitat designations

13.1 Priority Habitat Inventory

Records within 250m**0**

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

This data is sourced from Natural England.

13.2 Habitat Networks

Records within 250m**0**

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

This data is sourced from Natural England.

13.3 Open Mosaic Habitat

Records within 250m**0**

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

This data is sourced from Natural England.

13.4 Limestone Pavement Orders

Records within 250m**0**

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

This data is sourced from Natural England.



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Full coverage
 Partial coverage
 No coverage

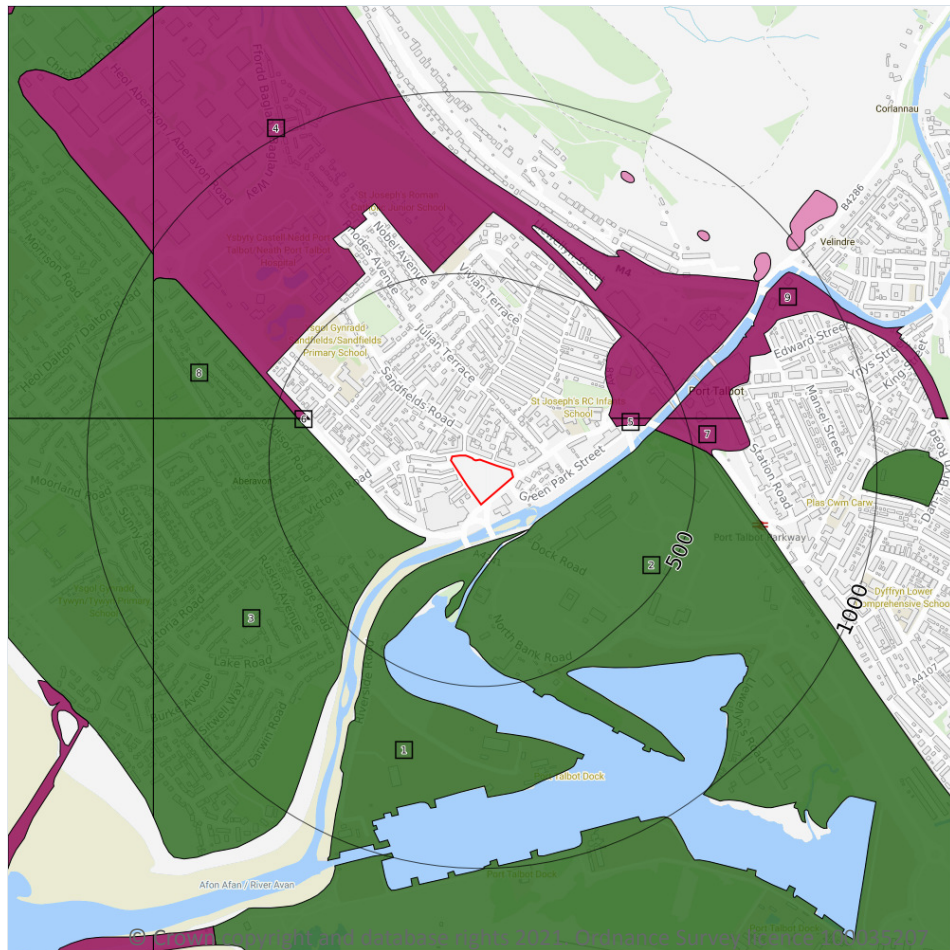
Records within 500m	2
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ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	SS78NE
2	102m N	Full	Full	Full	Full	SS79SE


 Contact us with any questions at:
info@groundsure.com
 08444 159 000

Date: 28 September 2021
 

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



- Site Outline**
- Search buffers in metres (m)**
- Reclaimed ground
 - Made ground
 - Worked ground
 - Infilled ground
 - Disturbed ground
 - Landscaped ground

14.2 Artificial and made ground (10k)

Records within 500m

9

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

Features are displayed on the Geology 1:10,000 scale - Artificial and made ground map on **page 108**

ID	Location	LEX Code	Description	Rock description
1	104m S	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
2	129m SE	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
3	177m SW	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
4	308m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

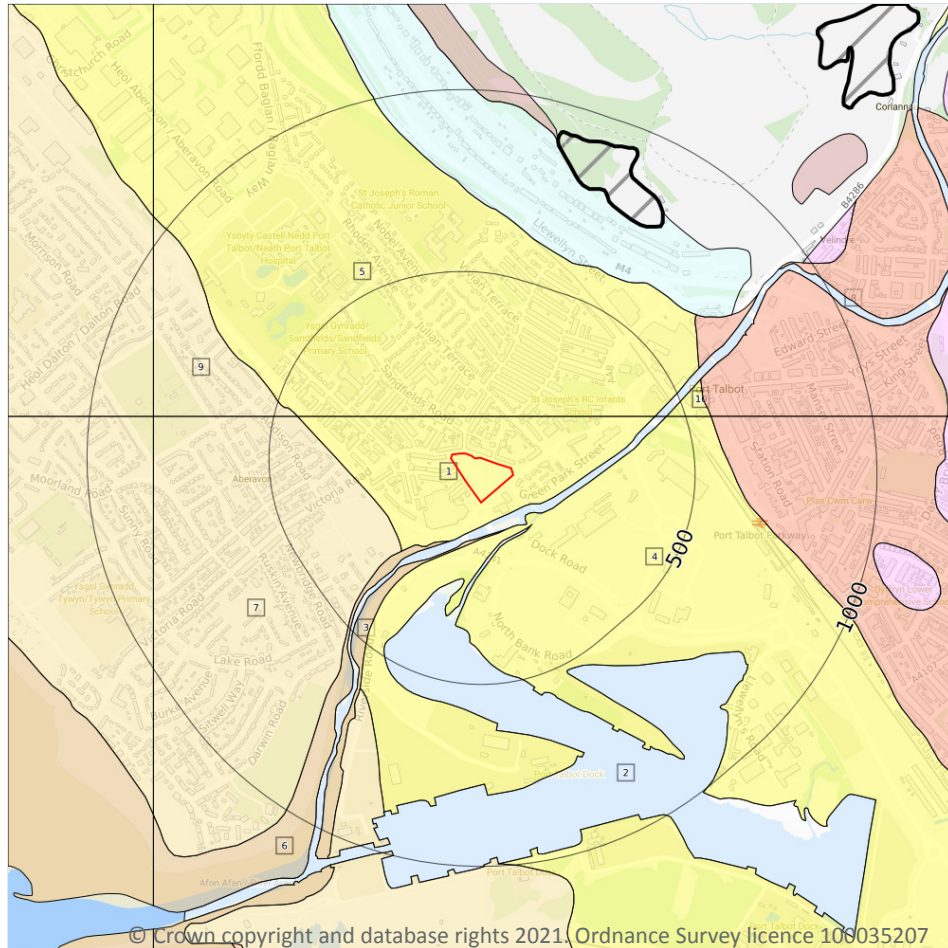


ID	Location	LEX Code	Description	Rock description
5	309m NE	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
6	404m W	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
7	411m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit
8	437m W	LSGR-UNKNOWN	Landscaped Ground (Undivided)	Unknown/unclassified Entry
9	450m E	MGR-ARTDP	Made Ground (Undivided)	Artificial Deposit

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (10k)

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

14.3 Superficial geology (10k)

Records within 500m

10

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

Features are displayed on the Geology 1:10,000 scale - Superficial map on **page 110**

ID	Location	LEX Code	Description	Rock description
1	On site	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
2	59m SE	SUPNM-UNKNOWN	Superficial Theme Not Mapped [for Digital Map Use Only] - Unknown/unclassified Entry	Unknown/unclassified Entry
3	91m S	BCHD-XSV	Beach Deposits - Sand And Gravel	Sand And Gravel



ID	Location	LEX Code	Description	Rock description
4	95m S	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
5	102m N	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand
6	136m SW	BCHD-XSV	Beach Deposits - Sand And Gravel	Sand And Gravel
7	232m SW	BSA-S	Blown Sand - Sand	Sand
8	421m E	SUPNM- UNKNOWN	Superficial Theme Not Mapped [for Digital Map Use Only] - Unknown/unclassified Entry	Unknown/unclassified Entry
9	437m W	BSA-S	Blown Sand - Sand	Sand
10	450m E	TFD-XCZS	Tidal Flat Deposits - Clay, Silt And Sand	Clay, Silt And Sand

This data is sourced from the British Geological Survey.

14.4 Landslip (10k)

Records within 500m

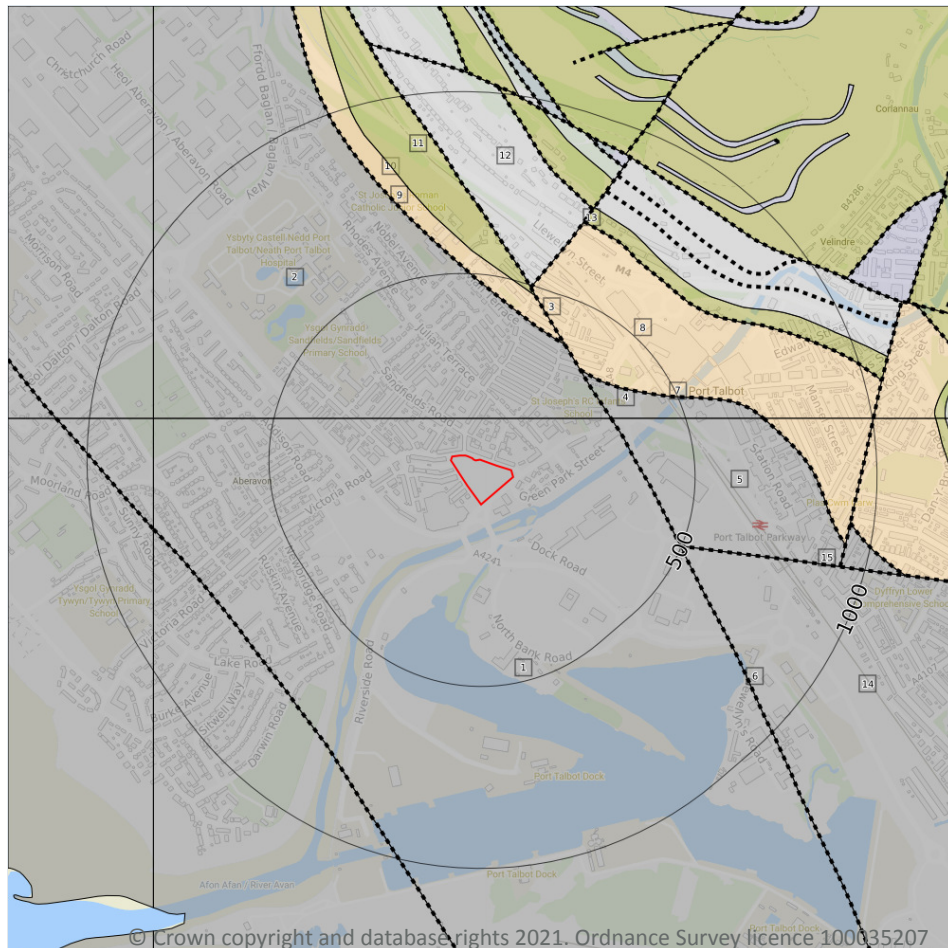
0

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

This data is sourced from the British Geological Survey.



Geology 1:10,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

..... Bedrock faults and other linear features (10k)

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

14.5 Bedrock geology (10k)

Records within 500m

9

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

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 112**

ID	Location	LEX Code	Description	Rock age
1	On site	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
2	102m N	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age



ID	Location	LEX Code	Description	Rock age
4	308m NE	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
5	309m NE	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age
8	335m NE	SWUCM-MDSS	South Wales Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovia Sub-age
10	376m NE	SWUCM-MDSS	South Wales Upper Coal Measures Formation - Mudstone, Siltstone And Sandstone	Westphalian D Sub-age - Bolsovia Sub-age
11	475m N	LLFB-SDST	Llynfi Member - Sandstone	Bolsovia Sub-age
12	493m N	LLFB-MDSS	Llynfi Member - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age
14	497m E	SWMCM-MDSS	South Wales Middle Coal Measures Formation - Mudstone, Siltstone And Sandstone	Bolsovia Sub-age - Duckmantian Sub-age

This data is sourced from the British Geological Survey.

14.6 Bedrock faults and other linear features (10k)

Records within 500m	6
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Linear features at the ground or bedrock surface at 1:10,000 scale of six main types; rock, fault, fold axis, mineral vein, alteration area or landform. Features are either observed or inferred, and relate primarily to bedrock.

Features are displayed on the Geology 1:10,000 scale - Bedrock map on **page 112**

ID	Location	Category	Description
3	308m NE	FAULT	Normal fault, inferred
6	309m NE	FAULT	Normal fault, inferred
7	335m NE	FOSSIL_HORIZON	Fossil horizon, marine band (UCGMB (CONJECTURAL))
9	376m NE	FOSSIL_HORIZON	Fossil horizon, marine band ()
13	493m N	FAULT	Normal fault, inferred
15	497m E	FAULT	Normal fault, inferred

This data is sourced from the British Geological Survey.



15 Geology 1:50,000 scale - Availability



15.1 50k Availability

Records within 500m

1

An indication on the coverage of 1:50,000 scale geology data for the site. Either 'Full' or 'No coverage' for each geological theme. Where 50k data is not available, this area has been filled in with 625k scale data.

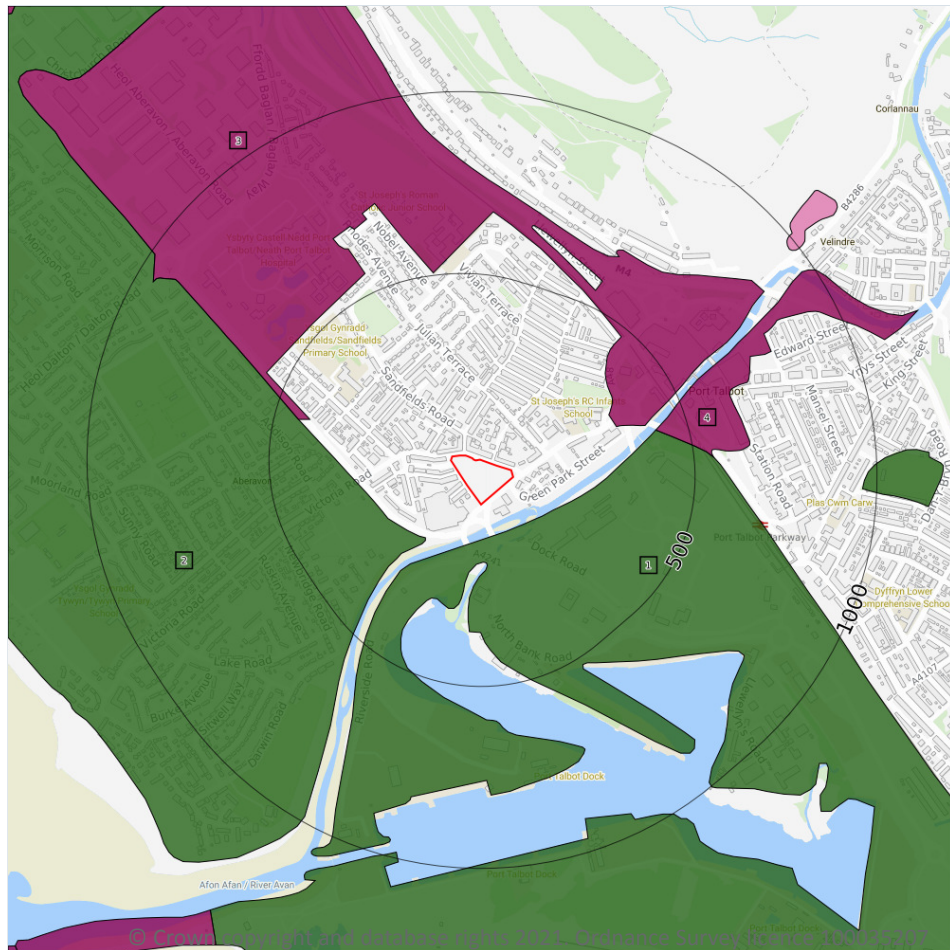
Features are displayed on the Geology 1:50,000 scale - Availability map on **page 114**

ID	Location	Artificial	Superficial	Bedrock	Mass movement	Sheet No.
1	On site	Full	Full	Full	Full	EW247_swansea_v4

This data is sourced from the British Geological Survey.



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



— Site Outline
Search buffers in metres (m)

- Made ground
- Worked ground
- Infilled ground
- Disturbed ground
- Landscaped ground

15.2 Artificial and made ground (50k)

Records within 500m

4

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

Features are displayed on the Geology 1:50,000 scale - Artificial and made ground map on **page 115**

ID	Location	LEX Code	Description	Rock description
1	92m S	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND
2	177m SW	LSGR-ARTGR	LANDSCAPED GROUND (UNDIVIDED)	ARTIFICIALLY MODIFIED GROUND
3	308m NE	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT
4	412m E	MGR-ARTDP	MADE GROUND (UNDIVIDED)	ARTIFICIAL DEPOSIT



This data is sourced from the British Geological Survey.

15.3 Artificial ground permeability (50k)

Records within 50m

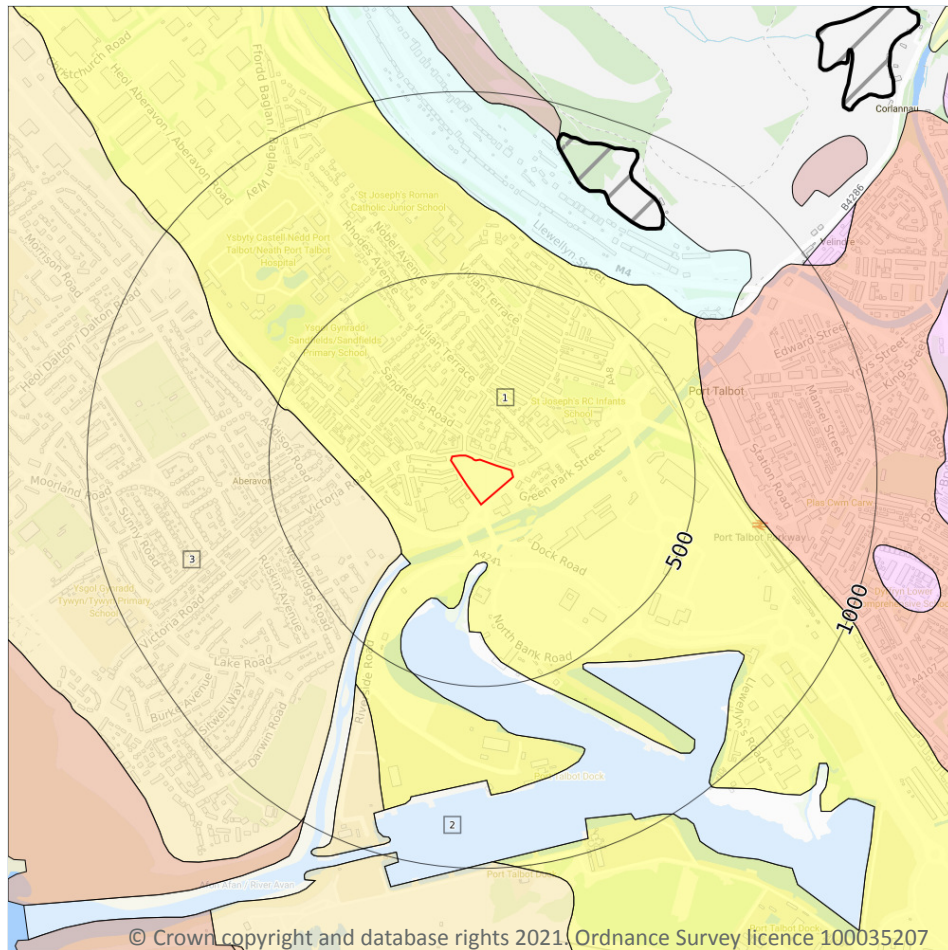
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Superficial



Site Outline

Search buffers in metres (m)

Landslip (50k)

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

15.4 Superficial geology (50k)

Records within 500m

3

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

Features are displayed on the Geology 1:50,000 scale - Superficial map on **page 117**

ID	Location	LEX Code	Description	Rock description
1	On site	TFD-XCZS	TIDAL FLAT DEPOSITS	CLAY, SILT AND SAND
2	158m S	SUPNM-UNKNOWN	SUPERFICIAL THEME NOT MAPPED [FOR DIGITAL MAP USE ONLY]	UNKNOWN/UNCLASSIFIED ENTRY
3	232m SW	BSA-S	BLOWN SAND	SAND



This data is sourced from the British Geological Survey.

15.5 Superficial permeability (50k)

Records within 50m

1

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

Location	Flow type	Maximum permeability	Minimum permeability
On site	Intergranular	Moderate	Very Low

This data is sourced from the British Geological Survey.

15.6 Landslip (50k)

Records within 500m

0

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

This data is sourced from the British Geological Survey.

15.7 Landslip permeability (50k)

Records within 50m

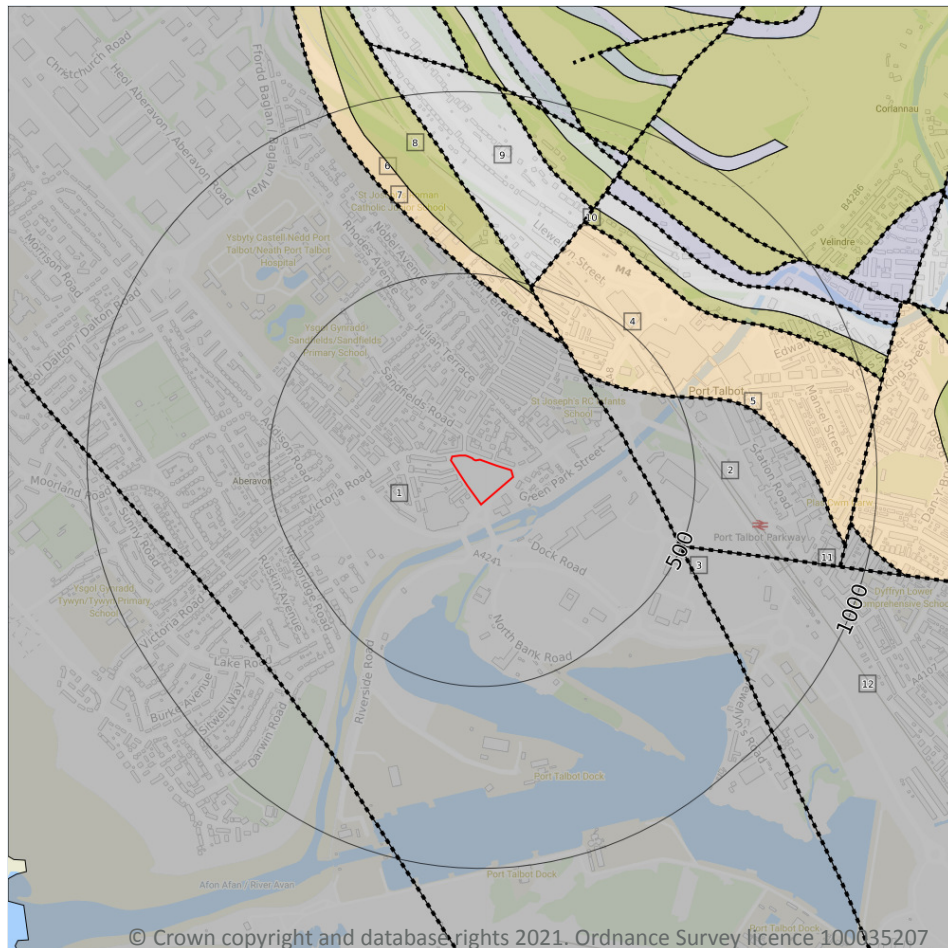
0

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

This data is sourced from the British Geological Survey.



Geology 1:50,000 scale - Bedrock



Site Outline

Search buffers in metres (m)

..... Bedrock faults and other linear features (50k)

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

15.8 Bedrock geology (50k)

Records within 500m

7

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 119**

ID	Location	LEX Code	Description	Rock age
1	On site	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
2	308m NE	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

ID	Location	LEX Code	Description	Rock age
4	335m NE	SWUCM-MDSS	SOUTH WALES UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
6	376m NE	SWUCM-MDSS	SOUTH WALES UPPER COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
8	475m N	LLFB-SDST	LLYNFI MEMBER - SANDSTONE	WESTPHALIAN
9	493m N	LLFB-MDSS	LLYNFI MEMBER - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN
12	497m E	SWMCM-MDSS	SOUTH WALES MIDDLE COAL MEASURES FORMATION - MUDSTONE, SILTSTONE AND SANDSTONE	WESTPHALIAN

This data is sourced from the British Geological Survey.

15.9 Bedrock permeability (50k)

Records within 50m	1
---------------------------	----------

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

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

This data is sourced from the British Geological Survey.

15.10 Bedrock faults and other linear features (50k)

Records within 500m	5
----------------------------	----------

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

Features are displayed on the Geology 1:50,000 scale - Bedrock map on **page 119**

ID	Location	Category	Description
3	308m NE	FAULT	Fault, inferred, displacement unknown
5	335m NE	FOSSIL_HORIZON	Marine band
7	376m NE	FOSSIL_HORIZON	Marine band
10	493m N	FAULT	Fault, inferred, displacement unknown

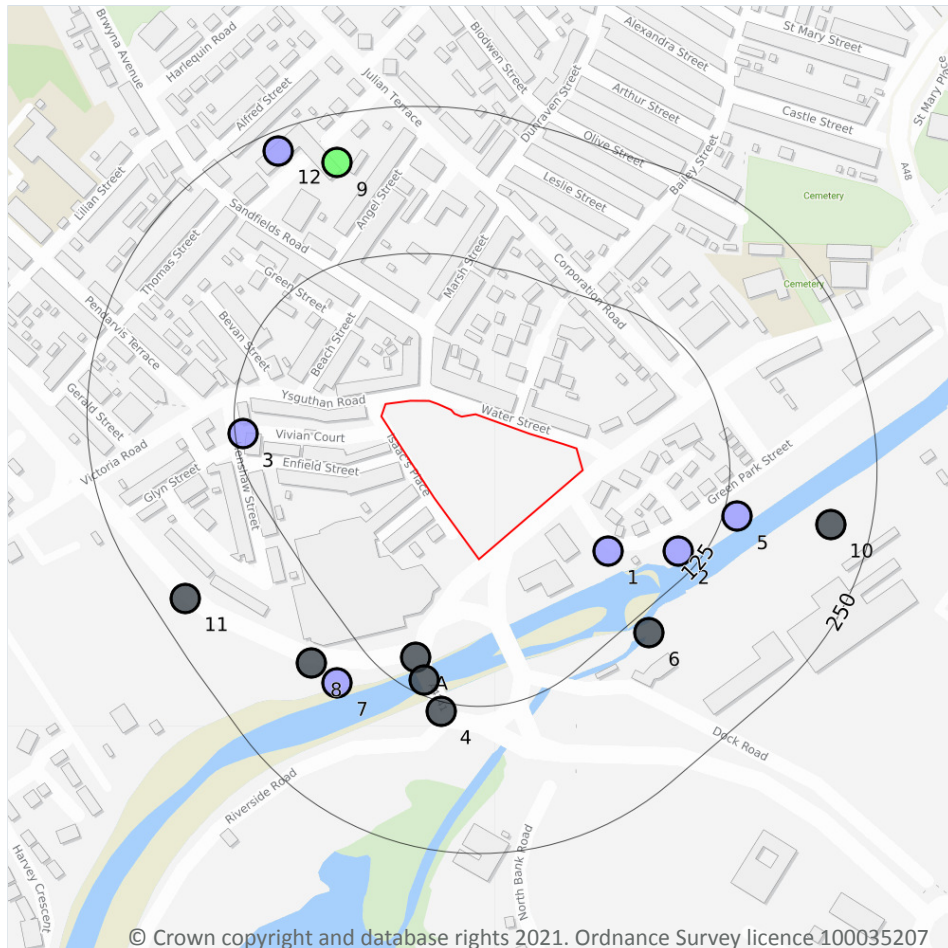


ID	Location	Category	Description
11	497m E	FAULT	Fault, inferred, displacement unknown

This data is sourced from the British Geological Survey.



16 Boreholes



- Site Outline**
- Search buffers in metres (m)**
- Confidential
 - 0 - 10m
 - 10 - 30m
 - 30m+
 - Unknown

16.1 BGS Boreholes

Records within 250m

14

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

Features are displayed on the Boreholes map on **page 122**

ID	Location	Grid reference	Name	Length	Confidential	Web link
1	66m SE	276010 189770	PORT TALBOT, HOLST SOIL ENGINEERING. 4	9.15	N	370710
A	99m SW	275847 189680	PORT TALBOT PDR STAGE ONE 15	-	Y	N/A

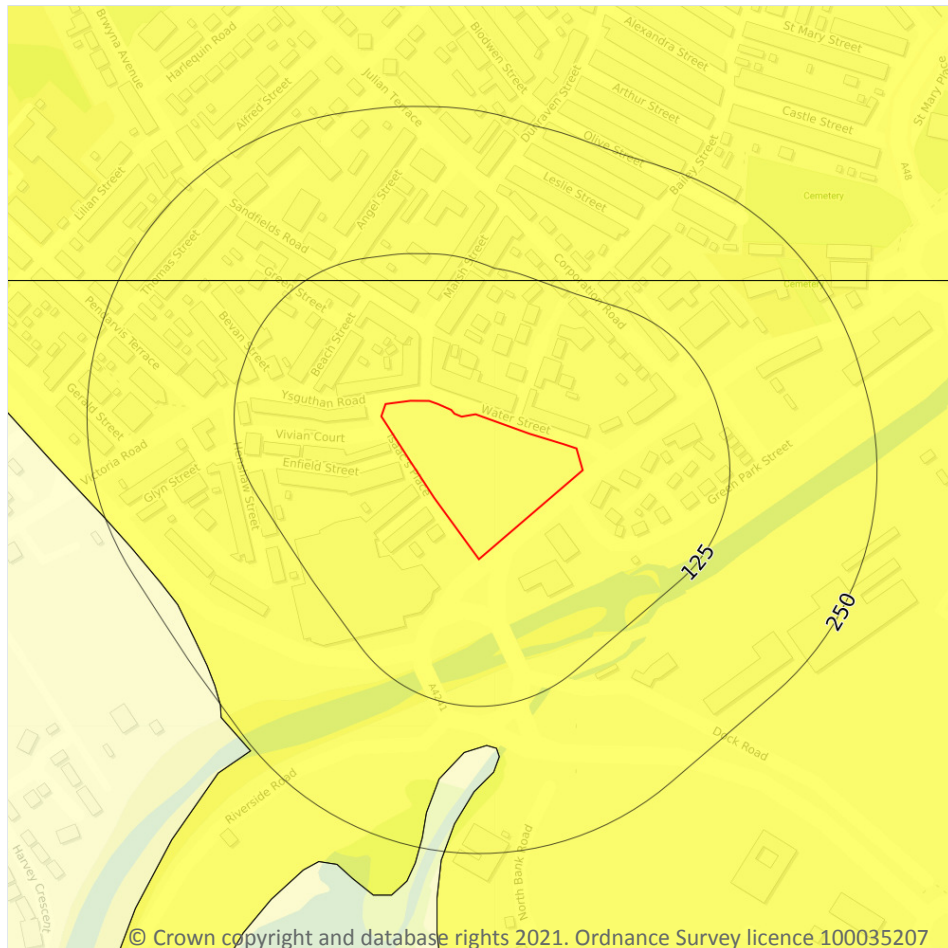


ID	Location	Grid reference	Name	Length	Confidential	Web link
2	107m SE	276070 189770	RIVER AFAN PORT TALBOT 1	8.0	N	370830
A	112m SW	275854 189661	PORT TALBOT PDR STAGE ONE 16	-	Y	N/A
3	118m W	275700 189870	PORT TALBOT, HOLST SOIL ENGINEERING. NO.12	6.65	N	370712
4	133m S	275868 189634	PORT TALBOT PDR STAGE ONE 17	-	Y	N/A
5	137m E	276120 189800	RIVER AFAN PORT TALBOT 2	8.0	N	370831
6	141m SE	276045 189701	PORT TALBOT PDR STAGE ONE 18	-	Y	N/A
7	160m SW	275780 189658	R. AFAN OUTFALL SCHEME 8	10.0	N	370826
8	167m SW	275758 189675	PORT TALBOT PDR STAGE ONE 14	-	Y	N/A
9	209m N	275780 190100	MICHNA STREET PORT TALBOT 2	12.4	N	371756
10	215m E	276199 189793	PORT TALBOT PDR STAGE ONE 19	-	Y	N/A
11	224m SW	275651 189730	PORT TALBOT PDR STAGE ONE TP 7	-	Y	N/A
12	233m NW	275730 190110	MICHNA STREET PORT TALBOT 1	9.45	N	371755

This data is sourced from the British Geological Survey.



17 Natural ground subsidence - Shrink swell clays



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☒ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.1 Shrink swell clays

Records within 50m

1

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

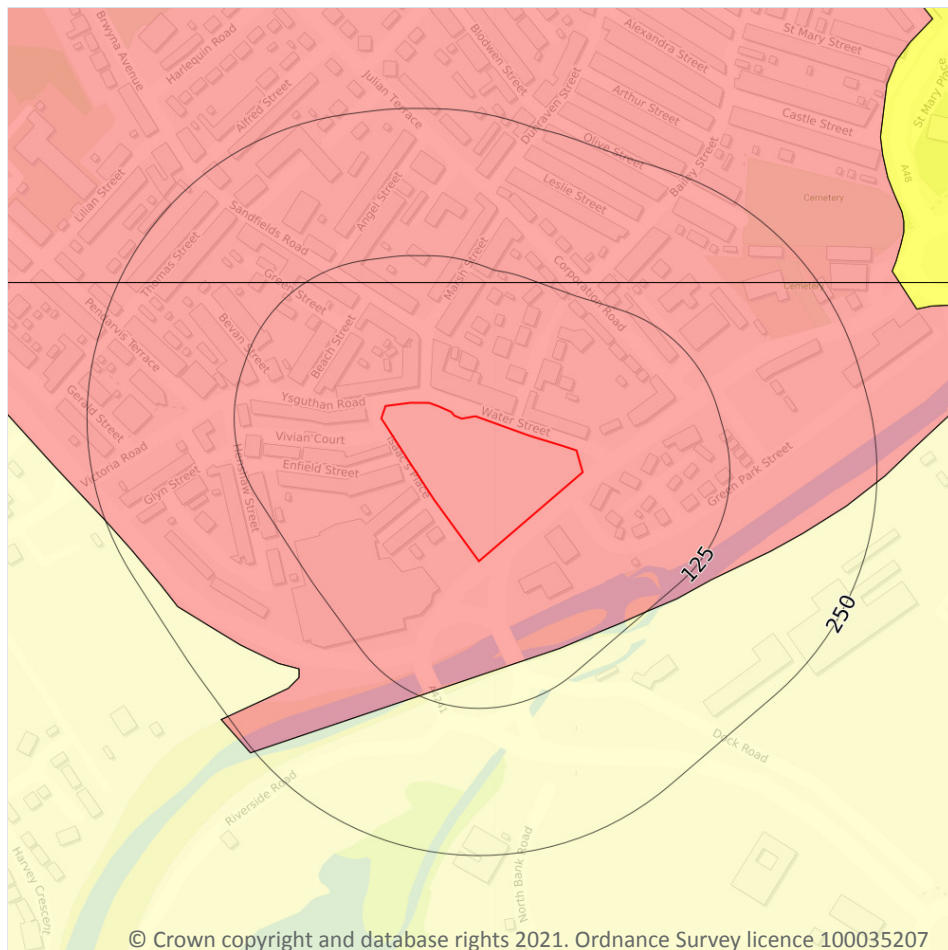
Features are displayed on the Natural ground subsidence - Shrink swell clays map on **page 124**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Running sands



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.2 Running sands

Records within 50m

1

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

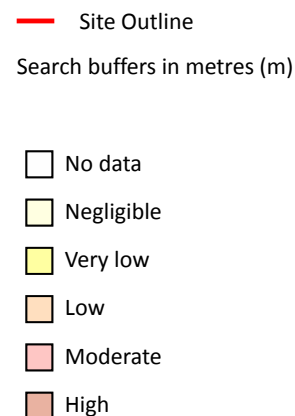
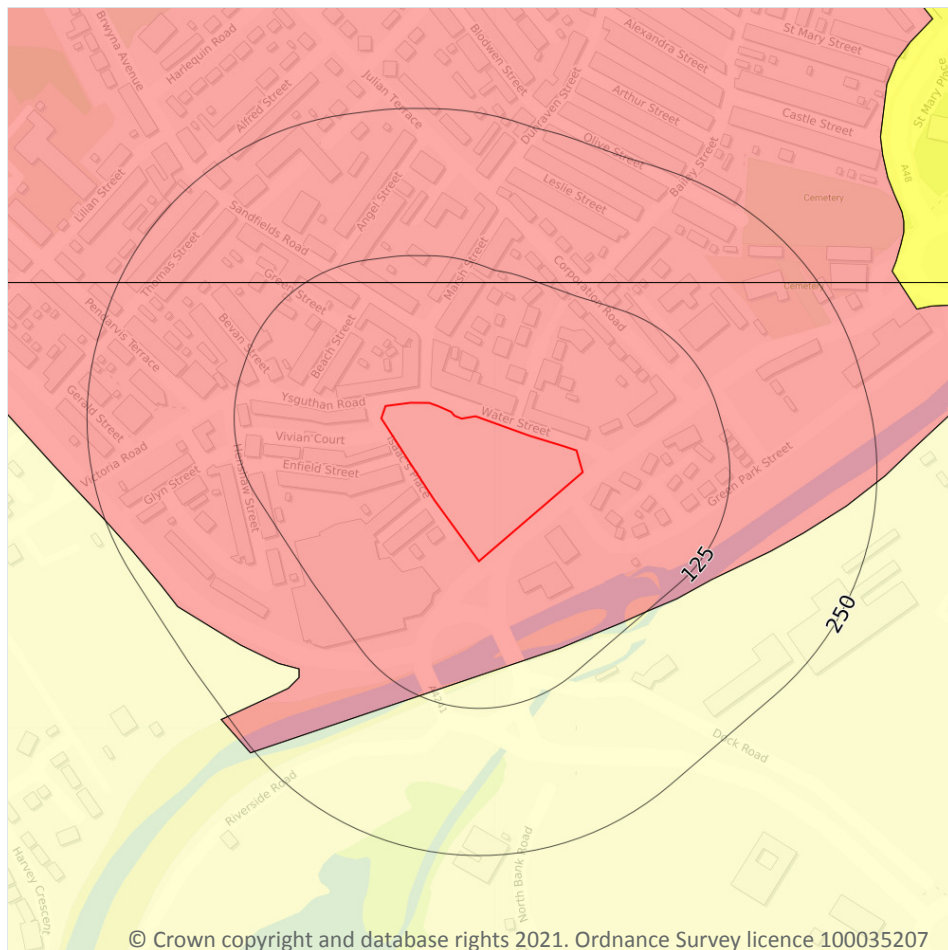
Features are displayed on the Natural ground subsidence - Running sands map on **page 125**

Location	Hazard rating	Details
On site	Moderate	Running sand conditions are probably present. Constraints may apply to land uses involving excavation or the addition or removal of water.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Compressible deposits



17.3 Compressible deposits

Records within 50m

1

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

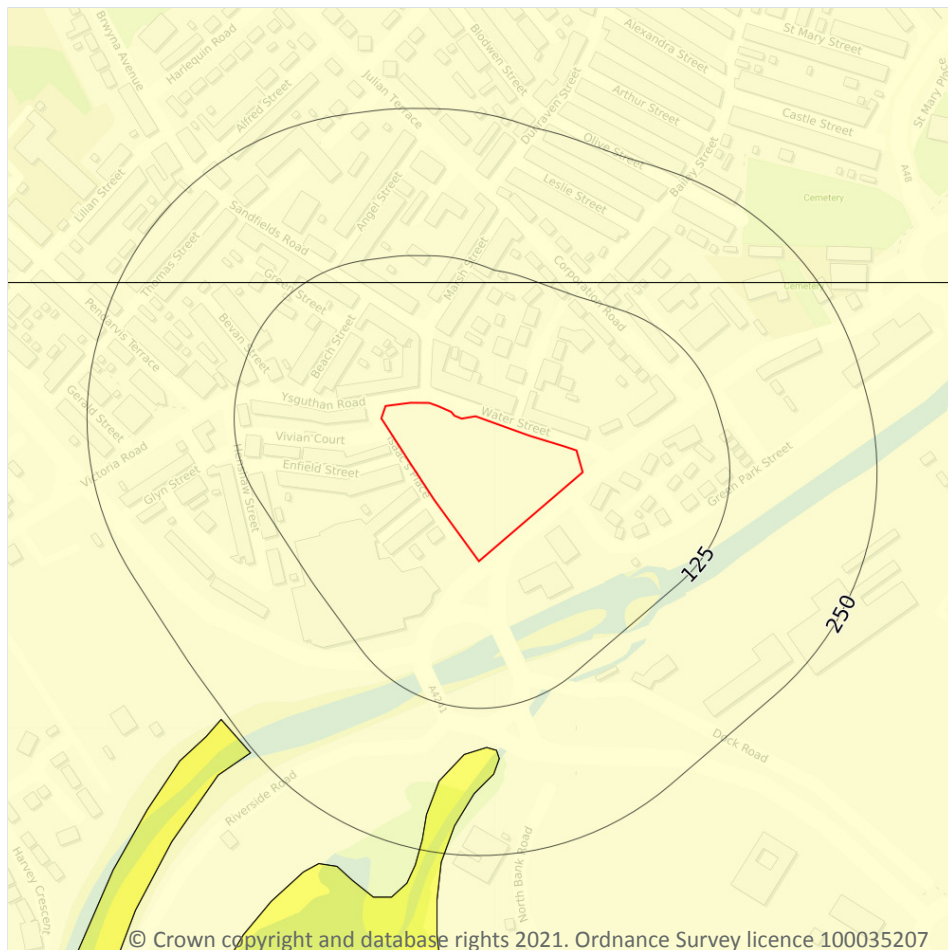
Features are displayed on the Natural ground subsidence - Compressible deposits map on **page 126**

Location	Hazard rating	Details
On site	Moderate	Compressibility and uneven settlement hazards are probably present. Land use should consider specifically the compressibility and variability of the site.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Collapsible deposits



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.4 Collapsible deposits

Records within 50m

1

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

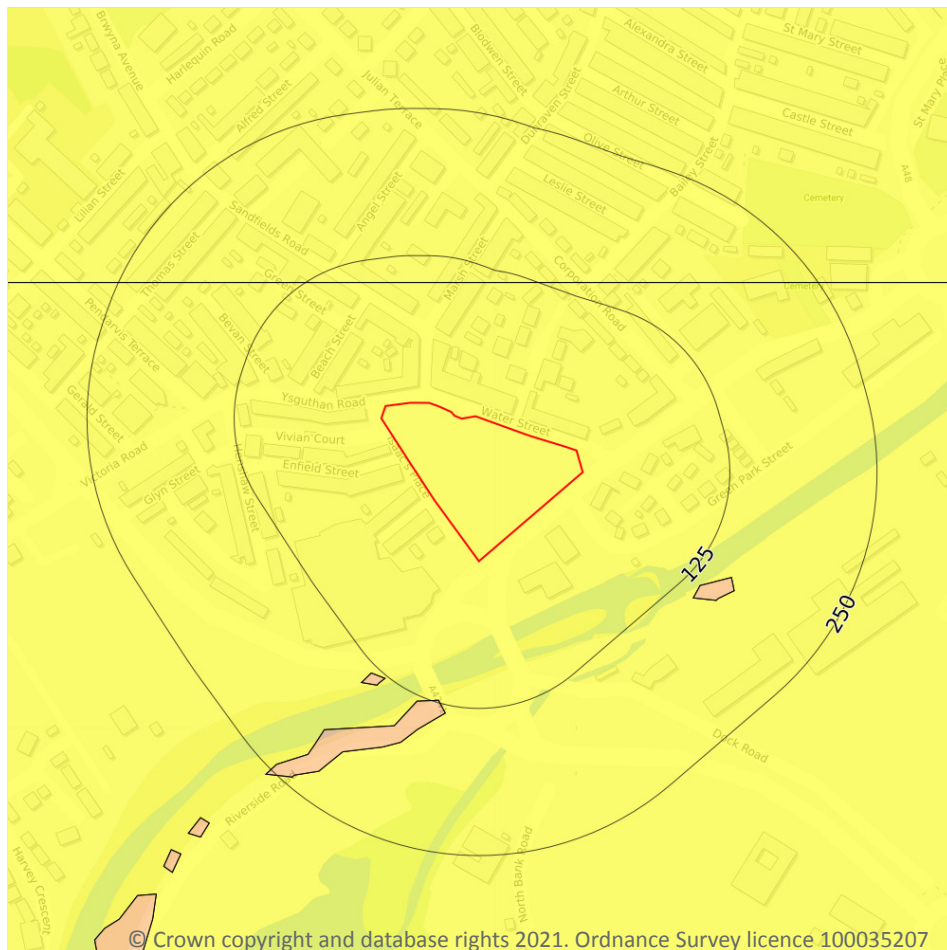
Features are displayed on the Natural ground subsidence - Collapsible deposits map on **page 127**

Location	Hazard rating	Details
On site	Negligible	Deposits with potential to collapse when loaded and saturated are believed not to be present.

This data is sourced from the British Geological Survey.



Natural ground subsidence - Landslides



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.5 Landslides

Records within 50m

1

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

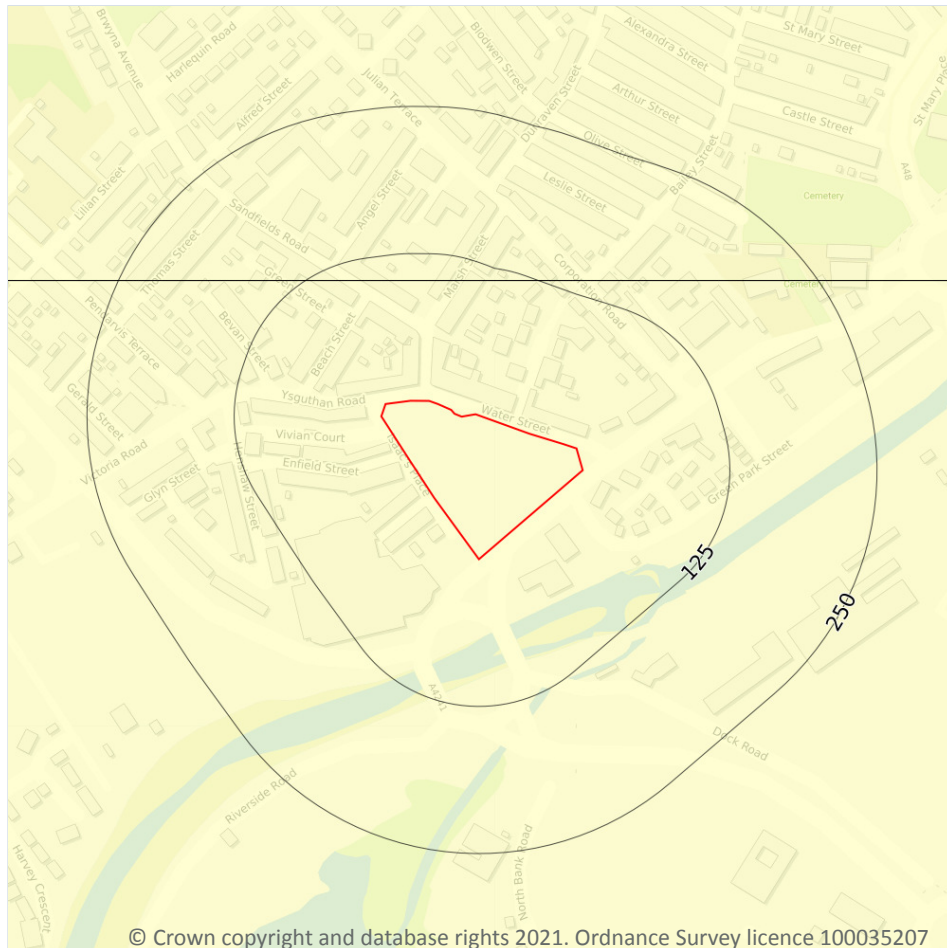
Features are displayed on the Natural ground subsidence - Landslides map on **page 128**

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

This data is sourced from the British Geological Survey.



Natural ground subsidence - Ground dissolution of soluble rocks



- Site Outline
- Search buffers in metres (m)
- ☐ No data
 - ☐ Negligible
 - ☐ Very low
 - ☐ Low
 - ☐ Moderate
 - ☐ High

17.6 Ground dissolution of soluble rocks

Records within 50m

1

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

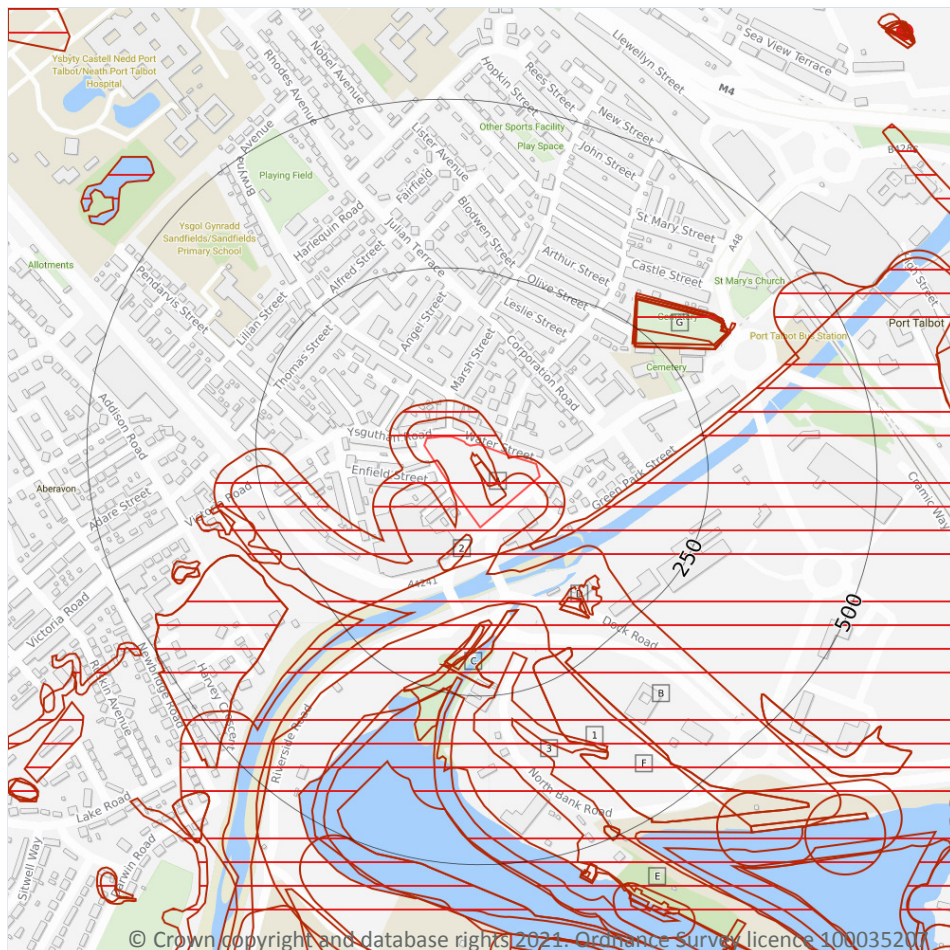
Features are displayed on the Natural ground subsidence - Ground dissolution of soluble rocks map on **page 129**

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

This data is sourced from the British Geological Survey.



18 Mining, ground workings and natural cavities



- Site Outline
- Search buffers in metres (m)
- Natural cavities (Area)
- Natural cavities (Point)
- BritPits
- Surface ground workings
- Underground workings
- Historical Mineral Planning Areas
- Mining Cavities
- Non Coal Mining
- Sporadic underground mining of restricted extent possible
- Localised small scale underground mining possible
- Small scale mining possible
- Underground mining known or likely within or in close proximity
- Underground mining known within or in very close proximity

18.1 Natural cavities

Records within 500m

0

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

This data is sourced from Stantec UK Ltd.

18.2 BritPits

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.3 Surface ground workings

Records within 250m

25

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

Features are displayed on the Mining, ground workings and natural cavities map on **page 131**

ID	Location	Land Use	Year of mapping	Mapping scale
1	On site	Old Dock	1914	1:10560
A	On site	Pond	1897	1:10560
A	On site	Pond	1914	1:10560
B	On site	Dock	1921	1:10560
2	20m SW	Unspecified Pit	1897	1:10560
B	46m S	Old Dock	1947	1:10560
3	117m S	Docks	1965	1:10560
C	131m S	Water Body	1914	1:10560
C	131m S	Water Body	1921	1:10560
C	138m S	Pond	1979	1:10000
C	144m S	Unspecified Ground Workings	1947	1:10560
D	156m SE	Pond	1897	1:10560
D	162m SE	Pond	1897	1:10560
D	164m SE	Pond	1914	1:10560
D	164m SE	Pond	1921	1:10560
E	192m S	Old Dock	1897	1:10560
F	215m SE	Water Body	1914	1:10560



ID	Location	Land Use	Year of mapping	Mapping scale
F	215m SE	Water Body	1921	1:10560
G	228m NE	Cemetery	1957	1:10560
G	228m NE	Cemetery	1947	1:10560
G	228m NE	Cemetery	1914	1:10560
G	228m NE	Cemetery	1921	1:10560
G	229m NE	Cemetery	1978	1:10000
G	229m NE	Cemetery	1995	1:10000
G	248m NE	Cemetery	1897	1:10560

This is data is sourced from Ordnance Survey/Groundsure.

18.4 Underground workings

Records within 1000m

0

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

This is data is sourced from Ordnance Survey/Groundsure.

18.5 Historical Mineral Planning Areas

Records within 500m

0

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

This data is sourced from the British Geological Survey.

18.6 Non-coal mining

Records within 1000m

0

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

This data is sourced from the British Geological Survey.



18.7 Mining cavities

Records within 1000m

0

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

This data is sourced from Stantec UK Ltd.

18.8 JPB mining areas

Records on site

0

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

This data is sourced from Johnson Poole and Bloomer.

18.9 Coal mining

Records on site

1

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

Location	Details
On site	The site is located within a coal mining area as defined by the Coal Authority. A Consultants Coal Mining Report is recommended to further assess coal mining issues at the site. This can be ordered directly through Groundsure or your preferred search provider.

This data is sourced from the Coal Authority.

18.10 Brine areas

Records on site

0

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

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



18.11 Gypsum areas

Records on site	0
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Generalised areas that may be affected by gypsum extraction.

This data is sourced from British Gypsum.

18.12 Tin mining

Records on site	0
-----------------	---

Generalised areas that may be affected by historical tin mining.

This data is sourced from Mining Searches UK.

18.13 Clay mining

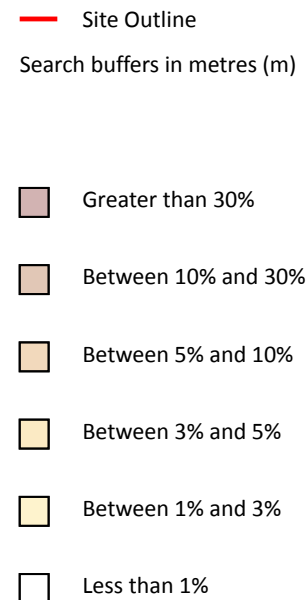
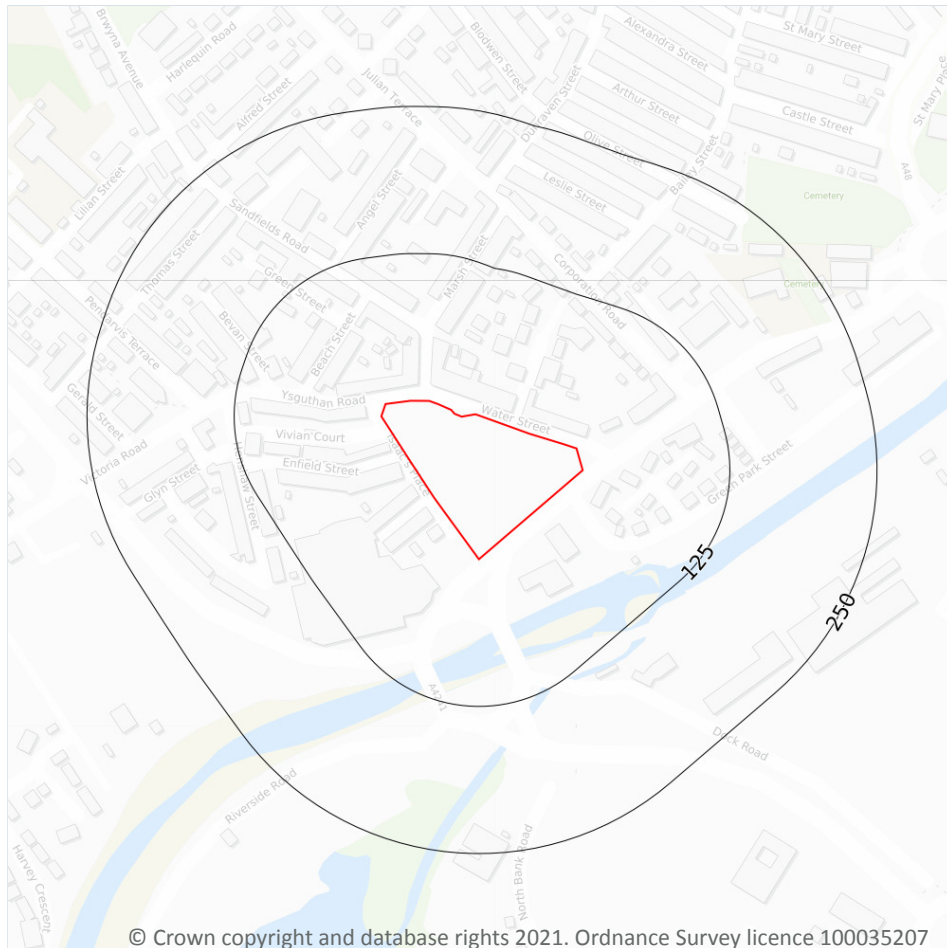
Records on site	0
-----------------	---

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

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



19 Radon



19.1 Radon

Records on site

1

Estimated percentage of dwellings exceeding the Radon Action Level. This data is the highest resolution radon dataset available for the UK and is produced to a 75m level of accuracy to allow for geological data accuracy and a 'residential property' buffer. The findings of this section should supersede any estimations derived from the Indicative Atlas of Radon in Great Britain. The data was derived from both geological assessments and long term measurements of radon in more than 479,000 households.

Features are displayed on the Radon map on **page 136**

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

This data is sourced from the British Geological Survey and Public Health England.



20 Soil chemistry

20.1 BGS Estimated Background Soil Chemistry

Records within 50m

3

The estimated values provide the likely background concentration of the potentially harmful elements Arsenic, Cadmium, Chromium, Lead and Nickel in topsoil. The values are estimated primarily from rural topsoil data collected at a sample density of approximately 1 per 2 km². In areas where rural soil samples are not available, estimation is based on stream sediment data collected from small streams at a sampling density of 1 per 2.5 km²; this is the case for most of Scotland, Wales and southern England. The stream sediment data are converted to soil-equivalent concentrations prior to the estimation.

Location	Arsenic	Bioaccessible Arsenic	Lead	Bioaccessible Lead	Cadmium	Chromium	Nickel
On site	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
11m SE	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg
11m E	25 - 35 mg/kg	No data	100 mg/kg	60 mg/kg	1.8 mg/kg	60 - 90 mg/kg	15 - 30 mg/kg

This data is sourced from the British Geological Survey.

20.2 BGS Estimated Urban Soil Chemistry

Records within 50m

11

Estimated topsoil chemistry of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc and bioaccessible Arsenic and Lead in 23 urban centres across Great Britain. These estimates are derived from interpolation of the measured urban topsoil data referred to above and provide information across each city between the measured sample locations (4 per km²).

Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
On site	30	5.3	275	189	1.4	79	114	53	54
On site	32	5.6	301	207	1.4	79	125	55	61
On site	34	5.9	336	231	1.5	81	162	64	70
On site	35	6.1	364	250	1.6	81	173	66	77



Location	Arsenic (mg/kg)	Bioaccessible Arsenic (mg/kg)	Lead (mg/kg)	Bioaccessible Lead (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Nickel (mg/kg)	Tin (mg/kg)
2m NW	33	5.8	335	230	1.5	77	138	58	72
11m E	36	6.3	384	264	1.6	83	191	71	81
14m NE	34	5.9	360	247	1.6	80	153	63	76
18m W	30	5.3	269	185	1.3	77	109	51	53
22m NW	32	5.6	305	210	1.4	76	123	53	65
37m SE	35	6.1	354	243	1.5	83	178	68	75
46m NE	38	6.7	433	297	1.7	83	212	77	102

This data is sourced from the British Geological Survey.

20.3 BGS Measured Urban Soil Chemistry

Records within 50m

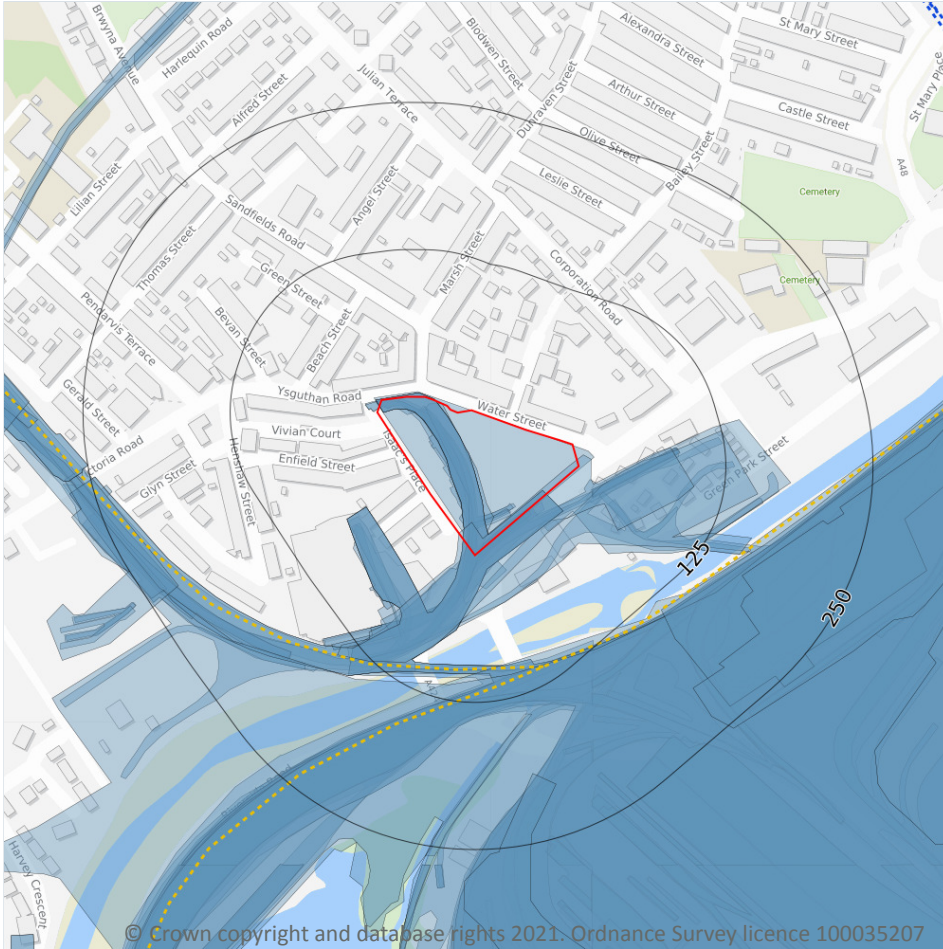
0

The locations and measured total concentrations (mg/kg) of Arsenic, Cadmium, Chromium, Copper, Nickel, Lead, Tin and Zinc in urban topsoil samples from 23 urban centres across Great Britain. These are collected at a sample density of 4 per km².

This data is sourced from the British Geological Survey.



21 Railway infrastructure and projects



- Site Outline
- Search buffers in metres (m)**
- C1 Crossrail 1 Stations
- Crossrail 1 Route
- Crossrail 1 Worksites
- C2 Crossrail 2 Stations
- Crossrail 2 Route
- Crossrail 2 Worksites
- Crossrail 2 Safeguarding
- Crossrail 2 Headhouses
- Railway stations
- Active railways
- Active tunnels
- Abandoned railways
- Historic railways
- Historic tunnels
- Underground stations
- Underground Lines
- Royal Mail tunnels
- HS2 optimised route
- HS2 Stations
- HS2 Depots
- HS2 Surface Safeguarding
- HS2 Subsurface Safeguarding

21.1 Underground railways (London)

Records within 250m

0

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

This data is sourced from publicly available information by Groundsure.

21.2 Underground railways (Non-London)

Records within 250m

0

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



This data is sourced from publicly available information by Groundsure.

21.3 Railway tunnels

Records within 250m

0

Railway tunnels taken from contemporary Ordnance Survey mapping.

This data is sourced from the Ordnance Survey.

21.4 Historical railway and tunnel features

Records within 250m

57

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

Features are displayed on the Railway infrastructure and projects map on **page 139**

Location	Land Use	Year of mapping	Mapping scale
On site	Railway Sidings	1951	2500
On site	Railway Sidings	1950	1250
On site	Railway Sidings	1962	1250
On site	Railway Sidings	1899	2500
On site	Railway Sidings	1917	2500
On site	Railway Sidings	1939	2500
On site	Railway Sidings	1947	10560
On site	Railway Sidings	1897	10560
On site	Railway Sidings	1914	10560
On site	Railway Sidings	1921	10560
On site	Railway Sidings	1965	10560
22m SE	Railway Sidings	1957	1250
23m SE	Railway Sidings	1951	1250
24m SE	Railway Sidings	1951	2500
30m SE	Tramway Sidings	1881	2500
96m S	Railway Sidings	1947	10560
105m S	Railway Sidings	1965	10560



Location	Land Use	Year of mapping	Mapping scale
107m S	Railway Sidings	1899	2500
121m S	Railway Sidings	1950	1250
121m S	Railway Sidings	1962	1250
121m S	Railway Sidings	1967	2500
121m S	Railway Sidings	1968	1250
125m SE	Railway Sidings	1951	2500
138m SE	Railway Sidings	1897	10560
145m SE	Disused Railway Sidings	1968	2500
145m SE	Railway Sidings	1967	1250
153m SE	Railway Sidings	1964	1250
153m SE	Railway Sidings	1951	1250
155m SE	Railway Sidings	1957	1250
167m SE	Railway Sidings	1979	10000
171m SW	Railway Sidings	1962	1250
175m SW	Railway Sidings	1950	1250
182m SE	Railway Sidings	1950	1250
182m SE	Railway Sidings	1951	2500
190m SE	Railway	1876	-
192m S	Railway Sidings	1897	10560
193m SE	Railway Sidings	1967	2500
213m SE	Railway Sidings	1957	1250
213m SE	Railway Sidings	1964	1250
213m SE	Railway Sidings	1951	1250
214m SE	Railway Sidings	1967	1250
220m SE	Railway Sidings	1968	2500
222m SW	Railway Sidings	1947	10560
226m SE	Railway Sidings	1951	1250
226m SE	Railway Sidings	1957	1250



Location	Land Use	Year of mapping	Mapping scale
226m SE	Railway Sidings	1964	1250
228m SE	Railway Sidings	1967	1250
228m SE	Railway Sidings	1964	1250
229m SE	Railway Sidings	1967	1250
232m SW	Railway Sidings	1899	2500
239m SE	Railway Sidings	1951	1250
247m S	Railway Sidings	1962	1250
248m S	Railway Sidings	1968	1250
249m S	Railway Sidings	1967	2500
250m S	Railway Sidings	1967	2500
250m W	Railway Sidings	1914	10560
250m W	Railway Sidings	1921	10560

This data is sourced from Ordnance Survey/Groundsure.

21.5 Royal Mail tunnels

Records within 250m

0

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

This data is sourced from Groundsure/the Postal Museum.

21.6 Historical railways

Records within 250m

2

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

Features are displayed on the Railway infrastructure and projects map on **page 139**

Location	Description
97m S	Razed



Location	Description
110m SE	Dismantled

This data is sourced from OpenStreetMap.

21.7 Railways

Records within 250m	0
----------------------------	----------

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

This data is sourced from Ordnance Survey and OpenStreetMap.

21.8 Crossrail 1

Records within 500m	0
----------------------------	----------

The Crossrail railway project links 41 stations over 100 kilometres from Reading and Heathrow in the west, through underground sections in central London, to Shenfield and Abbey Wood in the east.

This data is sourced from publicly available information by Groundsure.

21.9 Crossrail 2

Records within 500m	0
----------------------------	----------

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

This data is sourced from publicly available information by Groundsure.

21.10 HS2

Records within 500m	0
----------------------------	----------

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

This data is sourced from HS2 Ltd.



Data providers

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

Terms and conditions

Groundsure's Terms and Conditions can be accessed at this link: <https://www.groundsure.com/terms-and-conditions-jan-2020/>.





APPENDIX 5 - Coal Authority Report



The Coal
Authority

CON29M

coal mining report

BURROWS YARD, WATER STREET, ABERAVON, NEATH PORT TALBOT, SA12 6LL



Known or potential coal mining risks

Future underground coal mining

Page 3



Further action

No further reports from the Coal Authority are required. Further information on any next steps can be found in our Professional opinion.

For more information on our reports please visit
www.groundstability.com



Professional opinion

According to the official mining information records held by the Coal Authority at the time of this search, evidence of, or the potential for, coal mining related features have been identified. It is unlikely that these features will impact on the stability of the enquiry boundary.

Your reference: **GRO-21252**
Our reference: **51002684845001**
Date: **28 September 2021**

Client name:
James Doyle

If you require any further assistance please
contact our experts on:
0345 762 6848
groundstability@coal.gov.uk



The Law
Society

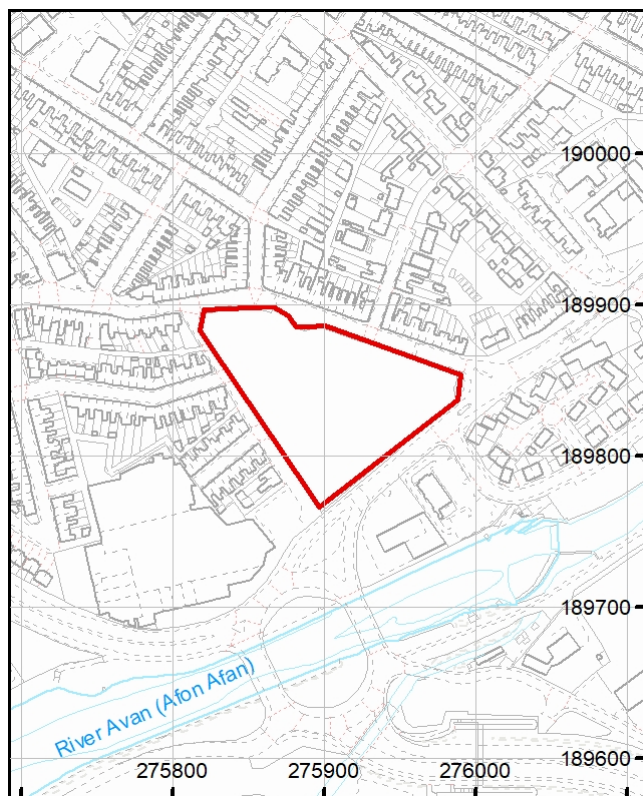
Enquiry boundary

Key

Approximate position of enquiry boundary shown



We can confirm that the location is
on the coalfield



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This report is prepared in accordance with the latest Law Society's Guidance Notes 2018, the User Guide 2018 and the Coal Authority's Terms and Conditions applicable at the time the report was produced.



Accessibility

If you would like this information in an alternative format, please contact our communications team on 0345 762 6848 or email communications@coal.gov.uk.

Detailed findings

Information provided by the Coal Authority in this report is compiled in response to the Law Society's CON29M Coal Mining enquiries. The said enquiries are protected by copyright owned by the Law Society of 113 Chancery Lane, London WC2A 1PL.

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1 Past underground coal mining

The property is not within a surface area that could be affected by any past recorded underground coal mining.

2 Present underground coal mining

The property is not within a surface area that could be affected by present underground mining.

3 Future underground coal mining

The property is not in an area where the Coal Authority has received an application for, and is currently considering whether to grant a licence to remove or work coal by underground methods.

The property is not in an area where a licence has been granted to remove or otherwise work coal using underground methods.

The property is not in an area likely to be affected from any planned future underground coal mining.

However, reserves of coal exist in the local area which could be worked at some time in the future.

No notices have been given, under section 46 of the Coal Mining Subsidence Act 1991, stating that the land is at risk of subsidence.

4 Mine entries

There are no recorded coal mine entries known to the Coal Authority within, or within 20 metres, of the boundary of the property.

5 Coal mining geology

The Coal Authority is not aware of any damage due to geological faults or other lines of weakness that have been affected by coal mining.

6 Past opencast coal mining

The property is not within the boundary of an opencast site from which coal has been removed by opencast methods.

7 Present opencast coal mining

The property does not lie within 200 metres of the boundary of an opencast site from which coal is being removed by opencast methods.

8 Future opencast coal mining

There are no licence requests outstanding to remove coal by opencast methods within 800 metres of the boundary.

The property is not within 800 metres of the boundary of an opencast site for which a licence to remove coal by opencast methods has been granted.

9 Coal mining subsidence

The Coal Authority has not received a damage notice or claim for the subject property, or any property within 50 metres of the enquiry boundary, since 31 October 1994.

There is no current Stop Notice delaying the start of remedial works or repairs to the property.

The Coal Authority is not aware of any request having been made to carry out preventive works before coal is worked under section 33 of the Coal Mining Subsidence Act 1991.

10 Mine gas

The Coal Authority has no record of a mine gas emission requiring action.

11 Hazards related to coal mining

The property has not been subject to remedial works, by or on behalf of the Coal Authority, under its Emergency Surface Hazard Call Out procedures.

12 Withdrawal of support

The property is not in an area where a notice to withdraw support has been given.

The property is not in an area where a notice has been given under section 41 of the Coal Industry Act 1994, cancelling the entitlement to withdraw support.

13 Working facilities order

The property is not in an area where an order has been made, under the provisions of the Mines (Working Facilities and Support) Acts 1923 and 1966 or any statutory modification or amendment thereof.

14 Payments to owners of former copyhold land

The property is not in an area where a relevant notice has been published under the Coal Industry Act 1975/Coal Industry Act 1994.

Statutory cover



Coal mining subsidence

In the unlikely event of any coal mining related subsidence damage, the Coal Authority or the mine operator has a duty to take remedial action in respect of subsidence caused by the withdrawal of support from land or property in connection with lawful coal mining operations.

When the works are the responsibility of the Coal Authority, our dedicated public safety and subsidence team will manage the claim. The house or land owner ("the owner") is covered for these works under the terms of the Coal Mining Subsidence Act 1991 (as amended by the Coal Industry Act 1994). Please note, this Act does not apply where coal was worked or gotten by virtue of the grant of a gale in the Forest of Dean, or any other part of the Hundred of St. Briavels in the county of Gloucester.

If you believe your land or property is suffering from coal mining subsidence damage and you need more information on what to do next, please use the following link to our website which sets out what your rights are and what you need to consider before making a claim.

www.gov.uk/government/publications/coal-mining-subsidence-damage-notice-form



Coal mining hazards

Our public safety and subsidence team provide a 24 hour a day, 7 days a week hazard reporting service, to help protect the public from hazards caused by past coal workings, such as a mine shaft or shallow working collapse. To report any hazards please call **01623 646 333**. Further information can be found on our website: www.gov.uk/coalauthority.

Glossary



Key terms

adit - horizontal or sloped entrance to a mine

coal mining subsidence - ground movement caused by the removal of coal by underground mining

Coal Mining Subsidence Act 1991 - the Act setting out the duties of the Coal Authority to repair damage caused by coal mining subsidence

coal mining subsidence damage - damage to land, buildings or structures caused by the removal of coal by underground mining

coal seams - bed of coal of varying thickness

future opencast coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal from the surface

future underground coal mining - a licence granted, or licence application received, by the Coal Authority to excavate coal underground. Although it is unlikely, remaining coal reserves could create a possibility for future mining, which would be licensed by the Coal Authority

mine entries - collective name for shafts and adits

payments to owners of former copyhold land - historically, copyhold land gave rights to coal to the copyholder. Legislation was set up to allow others to work this coal, but they had to issue a notice and pay compensation if a copyholder came forward

shaft - vertical entry into a mine

site investigation - investigations of coal mining risks carried out with the Coal Authority's permission

stop notice - a delay to repairs because further coal mining subsidence damage may occur and it would be unwise to carry out permanent repairs

subsidence claim - a formal notice of subsidence damage to the Coal Authority since it was established on 31 October 1994

withdrawal of support - a historic notice informing landowners that the coal beneath their property was going to be worked

working facilities orders - a court order which gave permission, restricted or prevented coal mine workings



APPENDIX 6 - CIRIA Risk Assessment Methodology

Contaminated Land Risk Assessment

Contaminated Land Risk Assessment is a technique that identifies and considers the associated risk, determines whether the risks are significant and whether action needs to be taken. The four main stages of risk assessment are:

Hazard Identification ➡ Hazard Assessment ➡ Risk Estimation ➡ Risk Evaluation

CLR11 outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. The starting point of the risk assessment is to identify the context of the problem and the objectives of the process. Under CLR11, three tiers of risk assessment exist - Preliminary, Generic Quantitative and Detailed Quantitative.

Formulating and developing a conceptual model for the site is an important requirement of risk assessment, this supports the identification and assessment of pollutant linkages. Development of the conceptual model forms the main part of preliminary risk assessment, and the model is subsequently refined or revised as more information and understanding is obtained through the risk assessment process.

Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk.

The risk assessment process needs to take into account the degree of confidence required in decisions. Identification of uncertainties is an essential step in risk assessment.

The likelihood of an event is classified on a four-point system using the following terms and definitions from CIRIA C552:

- **High likelihood:** There is a pollution linkage and an event appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution;
- **Likely:** There is a pollution linkage and all the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term;
- **Low likelihood:** There is a pollution linkage and circumstances are possible under which an event could occur. However, it is by no means certain even over a longer period such event would take place, and is less likely in the short term;
- **Unlikely:** There is a pollution linkage but circumstances are such that it is improbable the event would occur even in the long term.

The severity is also classified using a system based on CIRIA C552. The terms and definitions are:

- **Severe:** Short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. A short-term risk to a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples – High concentrations of contaminant on surface of recreation area, major spillage of contaminants from site into controlled waters, explosion causing building to collapse;

- **Medium:** Chronic damage to human health ('significant harm' as defined in DETR 2000). Pollution of sensitive water resources. A significant change in a particular ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000);
Examples - Concentrations of contaminants exceed the generic assessment criteria, leaching of contaminants from a site to a Principal or Secondary Aquifer, death of species within a designated nature reserve;
- **Mild:** Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures, services or the environment;
Examples – Pollution of non-classified groundwater or damage to buildings rendering it unsafe to occupy.
- **Minor:** harm, not necessarily significant harm, which may result in financial loss or expenditure to resolve. Non-permanent health effects to human health (easily prevented by use of personal protective clothing etc). Easily repairable effects of damage to buildings, structures and services.
Examples – Presence of contaminants at such concentrations PPE is required during site work, loss of plants in landscaping scheme or discolouration of concrete.

Once the likelihood and severity have been determined, a risk category can be assigned using the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very Low	Very low

Definitions of the risk categories obtained from the above table are as follows together with an assessment of the further work that might be required:

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



APPENDIX 7 - Exploratory Hole Logs



GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WS01

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
WS

Location: PORT TALBOT

Level:

Scale
1:25

Client: ALDI STORES LIMITED

Dates: 04/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10	ES	N=4 (1,0/1,1,1,1)	0.20			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	1
		0.50	ES		0.45			MADE GROUND: Black sandy angular to subangular fine to coarse gravel of mixed lithologies including brick, ceramic and concrete. Sand is fine to coarse.	
		0.80	ES		0.70			MADE GROUND: Brown silty fine to coarse sand. Contains ash.	
		1.00	ES		1.00			MADE GROUND: Black gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including concrete, ash and clinker.	
		1.10						MADE GROUND: Brown clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including concrete, ash and clinker.	
		2.00	N=50 (25,0/50 for 235mm)		2.00			End of borehole at 2.00 m	
							3		
									4
									5

Remarks

1. Hand dug pit to 1.20m bgl. 2. No groundwater encountered 3. Borehole backfilled.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WS02

Sheet 1 of 2

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
WS

Location: PORT TALBOT

Level:

Scale
1:25

Client: ALDI STORES LIMITED

Dates: 04/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10	ES					MADE GROUND: Brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse. Cobbles are angular to sub angular of brick.	
		0.90	ES		0.80			MADE GROUND: Black sandy gravel. Sand is fine to coarse. Gravel is fine to coarse angular to subangular of mixed lithologies including brick concrete and ceramic.	1
		1.00		N=32 (4,7/7,8,7,10)					
		2.00		N=2 (0,1/0,1,0,1)	2.20				2
		2.30	D ES					Soft to firm grey sandy CLAY.	
		2.30							
		3.00		N=4 (2,1/1,1,1,1)	3.50			Soft grey sandy CLAY.	3
		3.60	D ES						
		3.60							
		4.00		N=40 (10,10/10,10,10,10)	4.00			Dense brown fine to medium SAND and subrounded to rounded fine to coarse GRAVEL of mixed lithologies.	4
					5.00				5

Continued on next sheet

Remarks

1. Hand dug pit to 1.20m bgl 2. No groundwater encountered 3. Installation to 4.0m bgl: 1.00m plain, 3.00m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WS02

Sheet 2 of 2

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
WS

Location: PORT TALBOT

Level:

Scale
1:25

Client: ALDI STORES LIMITED

Dates: 04/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		5.00		N=42 (7,8/10,10,10,12)				End of borehole at 5.00 m	
									6
									7
									8
									9
									10

Remarks

1. Hand dug pit to 1.20m bgl 2. No groundwater encountered 3. Installation to 4.0m bgl: 1.00m plain, 3.00m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WS03

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
WS

Location: PORT TALBOT

Level:

Scale
1:25

Client: ALDI STORES LIMITED

Dates: 04/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10	ES		0.20			MADE GROUND: Brown sandy gravelly topsoil. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies including brick and concrete.	1
		0.60	ES		0.50			MADE GROUND: Brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse. Cobbles are angular to subangular of concrete.	
		1.00		N=2 (1,0/1,1,0,0)	1.00			MADE GROUND: Black sandy angular to subangular fine to coarse gravel of mixed lithologies including coal, ash and clinker. Sand is fine to coarse.	
		1.10	ES					Very loose black silty clayey fine to medium SAND.	
		2.00			1.90				
		2.00	D						
		2.00	ES	N=5 (1,1/2,1,1,1)				Loose black sandy angular to subangular fine to coarse GRAVEL of mixed lithologies. Sand is fine to medium.	
		3.00		N=8 (1,0/1,1,1,5)					
		4.00		N=2 (1,0/0,1,0,1)	4.00				
								End of borehole at 4.00 m	

Remarks

1. Hand dug pit to 1.20m bgl 2. No groundwater encountered 3. Installation to 2.00m bgl due to borehole collapse 1.00m plain, 1.00m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WS04

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
WS

Location: PORT TALBOT

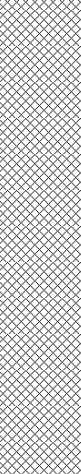
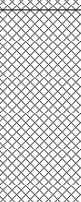
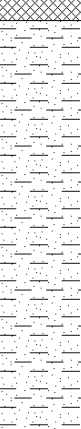
Level:

Scale
1:25

Client: ALDI STORES LIMITED

Dates: 04/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10	ES		0.20			MADE GROUND: Brown sandy gravelly topsoil. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies including brick and concrete.	1
		1.00 1.00	ES	N=4 (1,1/1,1,1,1)				MADE GROUND: Black sandy angular to subangular fine to coarse gravel of mixed lithologies including brick, concrete, ash and clinker. Sand is fine to coarse.	
		1.90 2.00	ES	N=2 (1,0/0,1,0,1)	1.80			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	2
		2.60 2.60	D ES		2.50			Soft grey sandy CLAY.	3
		3.00		N=4 (1,1/1,1,1,1)					
		4.00		N=21 (10,5/5,6,5,5)	4.00			Becoming firm to stiff at 4.00m bgl. End of borehole at 4.00 m	4
									5

Remarks

1. Hand dug pit to 1.20m bgl 2. No groundwater encountered 3. Borehole backfilled.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WS05

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
WS

Location: PORT TALBOT

Level:

Scale
1:25

Client: ALDI STORES LIMITED

Dates: 04/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.10	ES	N=4 (1,3/1,1,1,1)	0.25			MADE GROUND: Brown sandy gravelly topsoil. Sand is fine to coarse. Gravel is fine to coarse angular to subangular of mixed lithologies including brick and concrete.	1
		0.30	ES					MADE GROUND: Black sandy gravel. Sand is fine to coarse. Gravel is fine to coarse angular to subangular of mixed lithologies including concrete, coal, ceramic and brick.	
		0.80	ES					MADE GROUND: Dark brown silty clayey sand. Sand is fine to coarse.	
		1.00							
		1.50	D	N=2 (1,0/1,0,1,0)	2.20			Firm grey organic CLAY. Contains plant material.	2
		1.50	ES						
		2.00	D						
		2.00							
		3.00	D	N=4 (1,1/1,1,1,1)	4.00				3
		3.00	ES						
		3.00							
		3.00							
		4.00	D	N=20 (7,6/5,5,5,5)	4.00				4
		4.00						End of borehole at 4.00 m	
									5

Remarks

1. Hand dug pit to 1.20m bgl 2. No groundwater encountered 3. Installation to 4.0m bgl 1.00m plain, 3.00m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WS06

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
WS

Location: PORT TALBOT

Level:

Scale
1:25

Client: ALDI STORES LIMITED

Dates: 04/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20			MADE GROUND: Concrete.	
		0.30	ES		0.40			MADE GROUND: Black sandy angular to subangular fine to coarse gravel of mixed lithologies including brick, concrete, ash and clinker. Sand is fine to coarse.	
		0.50	ES		0.60			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including ash and clinker. Sand is fine to coarse.	
		0.70	ES					MADE GROUND: Black sandy angular to subangular fine to coarse gravel of mixed lithologies including coal, ash and clinker. Sand is fine to coarse.	
		1.00		N=2 (1,1/0,1,0,1)	1.00			Soft to firm grey CLAY.	1
		1.50	ES						
		2.00		N=4 (1,1/1,1,1,1)	2.00			NO RECOVERY.	2
		3.00		N=4 (1,1/1,1,1,1)	3.00			Soft to firm grey CLAY.	3
		3.50	D						
		4.00		N=23 (8,7/8,5,5,5)	4.00			Becoming firm to stiff at 4.00m bgl. End of borehole at 4.00 m	4

Remarks

1. Hand dug pit to 1.20m bgl 2. No groundwater encountered 3. installation to 4.0m bgl 1.00m plain, 3.00m slotted.



Trial Pit Log

Trialpit No

TP01

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -
Level:

Date
29/09/2021

Location: PORT TALBOT

Dimensions
(m):

Depth
3.20

Scale
1:25

Logged
MB

Client: ALDI STORES LIMITED

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES	PID=0	0.20 0.30 0.50			MADE GROUND: Dark brown sandy gravelly topsoil. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of mixed lithologies including concrete and brick. MADE GROUND: Concrete. MADE GROUND: Tarmac.	
	1.00	ES	PID=0				MADE GROUND: Brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick, coal and concrete. Sand is fine to coarse. Cobbles are angular to subangular of mixed lithologies including concrete and brick.	1
	1.50	ES	PID=0					2
				2.20			Soft grey sandy CLAY. Moderate hydrocarbon odour.	
	2.50	ES	PID=35					
	3.00	ES	PID=0	3.00 3.20			Firm grey sandy CLAY.	3
							End of pit at 3.20 m	4
								5

Remarks: 1. No groundwater encountered 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP02
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 30/09/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.00	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.10			MADE GROUND: Concrete.	
				0.20			MADE GROUND: Tarmac.	
	0.30	ES	PID=0				MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick, coal and concrete. Sand is fine to coarse. Cobbles are angular to subangular of brick.	
	0.60	ES	PID=0	0.50			MADE GROUND: Tarmac.	
				0.60			MADE GROUND: Brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick, coal and concrete. Sand is fine to coarse. Cobbles are angular to subangular of brick.	
	1.10	ES	PID=0	1.00			MADE GROUND: Dark brown sandy angular to subrounded fine to coarse gravel of mixed lithologies including brick and coal. Sand is medium to coarse.	1
	1.70	D		1.60			Soft grey sandy CLAY. Sand is fine to medium.	
	1.70	ES	PID=0					2
				2.80			Very soft grey silty CLAY.	
	3.00	D		3.00			End of pit at 3.00 m	3
	3.00	ES	PID=0					4
								5

Remarks: 1. No groundwater encountered 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP03
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 30/09/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.00	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.20	ES	PID=0	0.10			MADE GROUND: Concrete	
							MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse. Cobble content is high of angular to subangular cobbles of brick.	
	1.00	ES	PID=0	0.90			MADE GROUND: Black sandy angular to subangular fine to coarse gravel of mixed lithologies including ash, coal, shale and slag. Sand is fine to coarse.	1
	1.50 1.50	D ES	PID=0	1.35			Soft brown sandy CLAY. Sand is fine to medium	
	2.00 2.00	ES ES	PID=0					2
				2.80			Very soft grey gravelly silty CLAY. Gravel is rounded to well rounded medium to coarse of mixed lithologies including sandstone and mudstone.	
				3.00			End of pit at 3.00 m	3
								4
								5

Remarks: 1. No groundwater encountered 2. Upper 0.5m unstable. Remainder of the pit stable to base 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP04
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 30/09/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.20	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES	PID=0				MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse. Cobbles are angular to subangular of mixed lithologies including brick and concrete.	
				0.50			MADE GROUND: Concrete	
	0.80	ES	PID=0				MADE GROUND: Brown angular to subangular fine to coarse gravel of mixed lithologies including brick, concrete and slag.	1
				1.00			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including ash, brick and concrete. Sand is fine to coarse.	
	1.60	ES	PID=0				MADE GROUND: Light brown slightly gravelly fine to coarse sand. Gravel is angular fine of brick.	
	1.80	ES	PID=0				Firm grey sandy CLAY. Sand is fine	2
				2.50			Soft grey sandy CLAY. Sand is fine.	
	2.80	ES	PID=0					3
				3.20			End of pit at 3.20 m	
								4
								5

Remarks: 1. No groundwater encountered 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No

TP05

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -
Level:

Date
30/09/2021

Location: PORT TALBOT

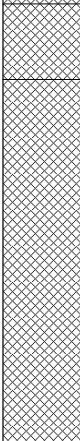
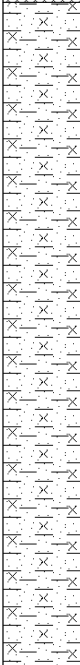
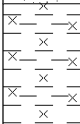
Dimensions
(m):

Depth
4.20

Scale
1:25

Logged
MB

Client: ALDI STORES LIMITED

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
				0.15			MADE GROUND: Weathered concrete.	1
	0.20	ES	PID=0	0.40		MADE GROUND: Brown mottled grey sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Cobbles are subangular of brick and concrete.		
	0.20	ES				MADE GROUND: Black ashy gravelly fine sand. Gravel is angular fine to coarse of mixed lithologies		
	0.50	ES	PID=0	1.60			Soft grey mottled black very sandy silty CLAY. Moderate to strong hydrocarbon odour.	
	0.50	ES						
	1.50	ES	PID=14	3.80		Very soft grey silty CLAY.	4	
	1.50	ES						
	2.00	D	PID=50	4.20		End of pit at 4.20 m	5	
	2.00	D						
	3.00	D						
	3.00	D						
	3.00	ES						
	3.00	ES						
	4.00	D	PID=0					
	4.00	D						
	4.00	ES						
	4.00	ES						

Remarks: 1. Groundwater encountered at base of pit. 2. Pit sides stable. 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP06
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 30/09/2021
Location: PORT TALBOT	Dimensions (m): Depth 2.80		Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES	PID=0	0.25			MADE GROUND: Brown sandy gravelly topsoil. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of mixed lithologies including brick and concrete.	1
				0.50			MADE GROUND: Grey angular to subangular fine to coarse gravel of mixed lithologies including concrete.	
							MADE GROUND: Cobbles of brick.	
	1.20	ES	PID=0	1.10			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	2
	1.60	ES	PID=0	1.60			MADE GROUND: Concrete.	
				1.70			MADE GROUND: Dark brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and slag. Sand is fine to coarse.	
	2.80	ES	PID=2	2.70 2.80			Soft to firm grey sandy CLAY. Sand is fine. End of pit at 2.80 m	3
								4
								5

Remarks: 1. Groundwater perched in Made Ground at 1.00m bgl. 2. Pit sides unstable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP07
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 30/09/2021
Location: PORT TALBOT		Dimensions (m): Depth 2.10	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES	PID=0	0.20			MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subrounded fine to coarse of mixed lithologies including concrete, brick and ceramic.	1
	0.25	ES	PID=0	0.25			MADE GROUND: Concrete.	
				0.75			MADE GROUND: Light brown cobbly gravelly fine to coarse sand. Gravel is angular to subangular fine to medium of mixed lithologies including brick and concrete.	
	1.20	ES	PID=0	1.20			MADE GROUND: Cobbles of brick.	2
				1.40			MADE GROUND: Mottled brown red and grey clayey medium to coarse sand.	
	1.80	ES	PID=0	2.10			Firm grey sandy CLAY. Sand is fine.	
							End of pit at 2.10 m	3
								4
								5

Remarks: 1. Rapid ingress of groundwater at 1.3m 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP08
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 30/09/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.20	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES	PID=0				MADE GROUND: Brown gravelly cobbly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick and concrete. Cobbles are angular to subangular of mixed lithologies including brick and concrete.	
	1.20	ES	PID=0	1.00			MADE GROUND: Light brown sandy angular to subangular fine to coarse gravel of mixed lithologies including ash and brick. Sand is fine to coarse.	1
	1.60	ES	PID=0	1.50			MADE GROUND: Red brown clayey sand. Sand is medium to coarse. Contains ash.	2
▼	2.80	ES	PID=0	2.80			Grey gravelly cobbly fine to medium SAND. Gravel is subrounded to rounded coarse of mixed lithologies. Cobbles are subrounded to rounded of mixed lithologies.	3
				3.20			End of pit at 3.20 m	4
								5

Remarks: 1. Groundwater seepage at 2.8m 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP09
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 30/09/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.10	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES		0.10			MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete and tarmac.	
	0.50	ES					MADE GROUND: Light brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, tarmac and concrete.	
				1.00			MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of mixed lithologies including brick, concrete and tarmac.	1
	2.10	ES		2.00			Brown fine to medium SAND.	2
	2.60 2.60	D ES		2.50			Soft grey sandy CLAY. Sand is fine.	
				3.10			End of pit at 3.10 m	3
								4
								5

Remarks: 1. No groundwater encountered 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP10
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 01/10/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.00	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES					MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse. Cobbles are angular of brick.	
	0.50	ES		0.40			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	
				0.80			MADE GROUND: Concrete.	
				0.90			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	1
	2.20 2.20	D ES		2.20			Soft grey sandy CLAY. Sand is fine.	2
				3.00			End of pit at 3.00 m	3
								4
								5

Remarks: 1. No groundwater encountered 2. Pit sides stable 3. Trial pit backfilled.

Stability:





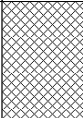
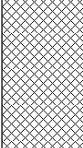
Trialpit No

Sheet 1 of 1

Date
01/10/2021

Scale
1:25

Logged
MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description			
	Depth	Type	Results							
	0.10	ES		0.40 0.45			MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse. Cobbles are angular of brick.	1		
	0.50	ES					MADE GROUND: Tarmac.			
						MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick, concrete and tarmac. Sand is fine to coarse.				
							MADE GROUND: Concrete.			
				----- End of pit at 1.30 m -----						
									2	
								3		
								4		
								5		



Stability:

Trial Pit Log

Trialpit No
TP12
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 01/10/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.00	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES					MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick, ceramic and concrete. Sand is fine to coarse. Cobble content is high and are angular of brick.	
	0.70	ES		0.60			MADE GROUND: Brown slightly gravelly clayey medium to coarse sand. Gravel is angular fine of ash and brick.	1
	2.10 2.10	D ES		2.00			Brown clayey cobbly SAND. Sand is fine to medium. Cobbles are rounded of mixed lithologies including sandstone.	2
▼	2.40 2.40	D ES		2.30			Soft grey CLAY.	
				3.00			End of pit at 3.00 m	3
								4
								5

Remarks: 1. Groundwater seepage at 2.4m 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP13
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 01/10/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.00	Scale 1:25
Client: ALDI STORES LIMITED			Logged MB

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES					MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick, ceramic and concrete. Sand is fine to coarse. Cobbles are angular of brick.	
	0.70	ES		0.65			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick. Sand is fine to coarse.	1
	1.20	ES		1.10			MADE GROUND: Black sandy angular to subangular fine to coarse gravel of mixed lithologies including glass, ash and clinker. Sand is fine to coarse.	
	1.90	ES		1.80			Firm brown CLAY.	2
	2.60 2.60	D ES		2.50			Light brown clayey SAND. Sand is fine to medium.	
	3.00 3.00	D ES		2.90 3.00			Soft grey CLAY.	3
							End of pit at 3.00 m	4
								5

Remarks: 1. No groundwater encountered 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP14
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 01/10/2021
Location: PORT TALBOT		Dimensions (m): Depth 3.00	Scale 1:25 Logged MB
Client: ALDI STORES LIMITED			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES					MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick, ceramic and concrete. Sand is fine to coarse. Cobbles content is high and are angular of brick.	
				0.50			MADE GROUND: Concrete and brick.	
				0.60			MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick ceramic and concrete. Sand is fine to coarse. Cobbles are angular of brick.	
	1.10 1.10	D ES		1.00			Firm grey sandy CLAY. Sand is fine. Contains plant material.	1
				2.60			Soft grey sandy CLAY. Sand is fine. Contains plant material.	2
				3.00			End of pit at 3.00 m	3
								4
								5

Remarks: 1. No groundwater encountered 2. Pit sides stable 3. Trial pit backfilled.

Stability:



Trial Pit Log

Trialpit No
TP15
Sheet 1 of 1

Project Name: AFAN WAY	Project No. GRO-21252	Co-ords: - Level:	Date 01/10/2021
Location: PORT TALBOT		Dimensions (m): Depth 2.90	Scale 1:25 Logged MB
Client: ALDI STORES LIMITED			

Water Strike	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
	Depth	Type	Results					
	0.10	ES					MADE GROUND: Dark brown sandy cobbly angular to subangular fine to coarse gravel of mixed lithologies including brick and ceramic. Sand is fine to coarse. Cobbles are angular of brick.	
	0.60	ES		0.50			MADE GROUND: Grey clayey sand. Sand is fine to coarse of mixed lithologies including brick, ash and clinker.	
	1.00	ES		0.90			MADE GROUND: Black slightly gravelly fine to coarse sand. Gravel is angular of mixed lithologies including ash, brick and coal.	1
	2.30	ES		2.20			Black clayey SAND. Sand is fine to medium.	2
	2.80 2.80	D ES		2.70 2.90			Soft black sandy CLAY. Sand is fine.	
							End of pit at 2.90 m	3
								4
								5

Remarks: 1. No groundwater encountered 2. Pit sides stable 3. Trial pit backfilled.

Stability:





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

CP01

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
CP

Location: PORT TALBOT

Level:

Scale
1:50

Client: ALDI STORES LIMITED

Dates: 29/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	ES	PID=0	2.80			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	1
		1.00	ES	PID=0					
		1.20		50 (25,20/50 for 20mm)					
		1.25 - 1.65	D						
		2.00	ES	50 (6,10/50 for 85mm)	2.80				2
		2.00		PID=0					
		2.00 - 2.45	D						
		2.90	D						
		3.00	ES	PID=0	5.30			Soft very low strength grey silty CLAY.	3
		3.00 - 3.45	U						
		3.50	D						
		4.00		N=10 (1,1/2,2,3,3)					
		4.00 - 4.45	D		5.30				4
		5.00		50 (25,40/50 for 10mm)					
		5.00 - 5.45	U						
		5.50	D						
		5.50	D		6.00			Dense brown slightly cobbly sandy subrounded fine to coarse GRAVEL of mixed lithologies.	5
		6.00	D	50 (25,20/50 for 25mm)					
		6.00							
		6.00							
								End of borehole at 6.00 m	6
									7
									8
									9
									10

Remarks

1. Hand dug pit to 1.20m bgl 2. Groundwater encountered at 3.0m bgl 3. Installation to 6.00m bgl 5.00m plain 1.00m slotted. 4. 2.50 hours chiselling undertaken between 1.20m and 2.8m bgl, 2 hours chiseling between 5.50m and 6.00m bgl.





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Borehole Log

Borehole No.

CP02

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
CP

Location: PORT TALBOT

Level:

Scale
1:50

Client: ALDI STORES LIMITED

Dates: 01/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	ES	PID=0	2.80			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	1
		1.00	ES	PID=0					
		1.20		N=50 (4,5/50 for 265mm)					
		1.20 - 1.65	D						
		2.00	ES	50 (25,20/50 for 20mm)	2.80			Soft to firm low strength firm grey silty CLAY.	2
		2.00		PID=0					
		2.00 - 2.45	D						
		3.00	ES	N=6 (1,1/1,1,1,3)					
		3.00		PID=0					
		3.00 - 3.45	D						
		4.00 - 4.45	U						
		4.50	D						
		5.00		50 (10,15/50 for 85mm)	5.00			Dense brown slightly cobbly sandy subrounded fine to coarse GRAVEL of mixed lithologies.	5
		5.00 - 5.45	D						
		6.00		50 (10,14/50 for 220mm)					
		6.00 - 6.45	D						
		7.00		100 (25,25/100 for 40mm)	7.50			End of borehole at 7.50 m	7
		7.00 - 7.45	D						
									8
									9
									10

Remarks

1. Hand dug pit to 1.20m bgl 2. Groundwater encountered at 3.00m bgl 3. Installation to 7.0m bgl: 5.00m plain, 2.00m slotted. 4. 2.00 hours chiselling undertaken between 1.20m and 2.2m bgl, 3 hours chiseling between 5.00m and 7.00m bgl.





GROUNDTECH
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Borehole Log

Borehole No.

CP03

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
CP

Location: PORT TALBOT

Level:

Scale
1:50

Client: ALDI STORES LIMITED

Dates: 04/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	ES	PID=0				MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	1
		1.00	ES	PID=0					
		1.20		N=20 (2,2/4,5,4,7)					
		2.00	ES	N=12 (1,1/2,5,3,2)					2
		2.00		PID=0					
		3.00	D		2.90				
		3.00	ES	N=8 (1,1/1,2,2,3)				Firm medium strength soft brown silty CLAY.	3
		3.00		PID=0					
		4.00	D		4.70				4
		4.00 - 4.45	U					Dense brown slightly cobbly sandy subrounded fine to coarse GRAVEL of mixed lithologies.	
		5.00	D	N=50 (3,4/7,3,20,20)					5
		5.00							
		6.00	D	50 (25,7/50 for 20mm)	6.45				6
		6.00							
									7
								End of borehole at 6.45 m	8
									9
									10

Remarks

1. Hand dug pit to 1.20m bgl 2. Groundwater encountered at 3.5m bgl 3. Installation to 6.00m: 5.00m plain 1.00m slotted.
4. 2.50 hours chiselling undertaken between 5.30m and 6.00m bgl.





GROUNDTECH
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Borehole Log

Borehole No.

CP04

Sheet 1 of 1

Project Name: AFAN WAY

Project No.
GRO-21252

Co-ords: -

Hole Type
CP

Location: PORT TALBOT

Level:

Scale
1:50

Client: ALDI STORES LIMITED

Dates: 05/10/2021 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.50	ES	PID=0	2.40			MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of mixed lithologies including brick and concrete. Sand is fine to coarse.	1
		1.00	ES	PID=0					1
		1.20	D	N=15 (1,3/5,2,3,5)					2
		1.20							2
		2.00	D	N=8 (1,2/2,2,2,2) PID=0				Firm low strength firm brown silty CLAY.	3
		2.00	ES						3
		2.00							3
		3.00	D	N=10 (1,2/3,2,2,3)					3
		3.00	U						3
		3.00 - 3.45							3
4.00	D	N=30 (3,6/6,7,7,10)		Dense brown slightly cobbly sandy subrounded fine to coarse GRAVEL of mixed lithologies.	4				
4.00					4				
5.00	D	50 (25,25/50 for 20mm)			5				
5.00					5				
5.50		50 (10,10/50 for 10mm)	5.50		End of borehole at 5.50 m	6			
							7		
							8		
							9		
							10		

Remarks

1. Hand dug pit to 1.20m bgl 2. Groundwater encountered at 3.50m bgl 3. Installation to 6.00m bgl; 4.00m plain, 2.00m slotted.





APPENDIX 8 - Geo-Environmental Testing (Soils)

Cameron Wallace
Groundtech Consulting Ltd
First Floor, Lloyd House
Oxford Court
Greenfold Way
WN7 3XJ

t: 07449819886

e: cw@groundtechconsulting.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 21-17040

Project / Site name:	Afan Way, Port Talbot	Samples received on:	14/10/2021
Your job number:	GRO-21252	Samples instructed on/ Analysis started on:	14/10/2021
Your order number:		Analysis completed by:	26/10/2021
Report Issue Number:	1	Report issued on:	26/10/2021
Samples Analysed:	15 soil samples		


Signed:

Joanna Wawrzeczko
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050884	2050885	2050886	2050887	2050888
Sample Reference				TP01	TP02	TP03	TP05	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	0.30	1.00	0.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	39	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	10	15	19	21
Total mass of sample received	kg	0.001	NONE	0.50	0.80	0.80	0.80	0.80

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile & Amosite & Crocidolite	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	Detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	0.003	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	0.003	-	-	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	9.0	8.0	8.3	6.4
Total Cyanide	mg/kg	1	MCERTS	-	58	3.5	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	-	580	110	150	1100
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	0.29	0.053	0.075	0.56
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	-	293	53.2	75.0	558
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	-	6.1	9.8	7.2	2.5

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	0.61	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	1.3	0.45	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	2.3	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	-	2.9	0.57	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	19	4.7	1.5	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	6.1	0.87	0.37	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	46	4.4	3.0	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	36	3.6	2.7	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	35	3.1	2.1	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	29	2.5	1.8	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	21	3.2	1.9	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	16	1.1	1.2	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	16	2.6	1.5	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	9.5	2.5	1.3	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	3.9	0.60	0.42	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	9.6	2.7	1.3	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	254	33.5	19.0	< 0.80
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Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050884	2050885	2050886	2050887	2050888
Sample Reference				TP01	TP02	TP03	TP05	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	0.30	1.00	0.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	47	29	45	9.9
Boron (water soluble)	mg/kg	0.2	MCERTS	-	2.8	0.8	1.2	1.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	< 0.2	5.0	2.1	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	-	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	46	15	20	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	910	360	180	16
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	730	1400	300	15
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	57	41	31	30
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	590	2300	1800	89

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0

Petroleum Hydrocarbons

TPH C10 - C40	mg/kg	10	MCERTS	-	330	44	25	910
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-	-	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	25
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	230
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	-	-	-	220
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	-	-	-	43
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	-	-	510
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	-	-	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	-	-	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	-	-	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	-	-	-	5.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	-	-	-	160
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	-	-	-	180
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	-	-	-	42
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	-	-	-	390

VOCs

Chloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050884	2050885	2050886	2050887	2050888
Sample Reference				TP01	TP02	TP03	TP05	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	0.30	1.00	0.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	1.0
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	0.8
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050884	2050885	2050886	2050887	2050888
Sample Reference				TP01	TP02	TP03	TP05	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	0.30	1.00	0.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05

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Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050884	2050885	2050886	2050887	2050888
Sample Reference				TP01	TP02	TP03	TP05	TP05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				2.50	0.30	1.00	0.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050889	2050890	2050891	2050892	2050893
Sample Reference				TP06	TP07	TP07	TP08	TP08
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60	1.20	0.25	1.20	1.60
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	22	18	10	18	17
Total mass of sample received	kg	0.001	NONE	0.50	0.80	0.80	0.80	0.80

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-	Chrysotile & Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-	0.040	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	-	0.040	-	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.9	8.0	10.0	8.0	7.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	4000	61	540	3800	4000
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	2.0	0.030	0.27	1.9	2.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	2020	30.3	270	1900	2010
Organic Matter	%	0.1	MCERTS	-	-	-	-	-
Organic Matter (automated)	%	0.1	MCERTS	8.1	1.1	3.3	2.8	1.8

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.57	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	4.1	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	2.6	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.57	< 0.05	3.1	15	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	0.60	3.2	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.85	< 0.05	4.6	14	< 0.05
Pyrene	mg/kg	0.05	MCERTS	0.76	< 0.05	4.0	10	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.68	< 0.05	3.3	10	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.77	< 0.05	2.4	7.4	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.87	< 0.05	2.0	6.9	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.38	< 0.05	1.0	3.3	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.59	< 0.05	1.3	4.4	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.60	< 0.05	0.84	3.2	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.19	< 0.05	0.28	1.3	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.69	< 0.05	0.86	3.2	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	6.95	< 0.80	24.3	89.4	< 0.80
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Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050889	2050890	2050891	2050892	2050893
Sample Reference				TP06	TP07	TP07	TP08	TP08
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60	1.20	0.25	1.20	1.60
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	71	23	31	120	28
Boron (water soluble)	mg/kg	0.2	MCERTS	0.5	0.3	0.5	1.3	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	4.9	< 0.2	1.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	27	11	22	26	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	180	18	92	430	56
Lead (aqua regia extractable)	mg/kg	1	MCERTS	260	190	140	170	47
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.4	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	35	10	22	40	21
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	18000	350	720	390	86

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-

Petroleum Hydrocarbons

TPH C10 - C40	mg/kg	10	MCERTS	94	< 10	42	140	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	-	< 8.0	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	< 10	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	12	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	< 10	-	38	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	< 10	-	78	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	130	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-

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Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050889	2050890	2050891	2050892	2050893
Sample Reference				TP06	TP07	TP07	TP08	TP08
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60	1.20	0.25	1.20	1.60
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	< 1.0	-	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	-	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	< 1.0	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	-

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Lab Sample Number				2050889	2050890	2050891	2050892	2050893
Sample Reference				TP06	TP07	TP07	TP08	TP08
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60	1.20	0.25	1.20	1.60
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	-	0.57	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	1.9	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-	4.1	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	2.6	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	< 0.05	-	2.6	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	< 0.05	-	15	-
Anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	3.2	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	-	14	-
Pyrene	mg/kg	0.05	MCERTS	-	< 0.05	-	10	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	10	-
Chrysene	mg/kg	0.05	MCERTS	-	< 0.05	-	7.4	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	-	6.9	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	< 0.05	-	3.3	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	-	4.4	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	< 0.05	-	3.2	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	< 0.05	-	1.3	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	< 0.05	-	3.2	-

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050889	2050890	2050891	2050892	2050893
Sample Reference				TP06	TP07	TP07	TP08	TP08
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.60	1.20	0.25	1.20	1.60
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	< 0.001	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	-	< 0.007	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050894	2050895	2050896	2050897	2050898
Sample Reference				TP09	TP10	WS05	WS06	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.60	0.10	0.90	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	15	8.8	11	39	34
Total mass of sample received	kg	0.001	NONE	0.80	0.30	0.80	0.80	0.80

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Chrysotile	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	-	-	-

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7.9	9.3	8.5	7.8	7.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble Sulphate as SO ₄ 16hr extraction (2:1)	mg/kg	2.5	MCERTS	29	810	260	36	810
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.014	0.41	0.13	0.018	0.41
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	14.4	405	132	17.9	405
Organic Matter	%	0.1	MCERTS	-	-	-	-	7.1
Organic Matter (automated)	%	0.1	MCERTS	2.7	6.3	6.7	6.0	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.23	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	2.7	2.4	0.60	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.51	0.39	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	8.6	3.8	0.36	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	6.9	3.2	0.39	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	6.0	2.2	0.35	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	4.4	2.3	0.35	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	5.1	1.9	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	2.4	0.87	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	3.6	1.3	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	2.1	0.97	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.76	0.29	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	2.5	1.0	< 0.05	< 0.05

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	45.7	20.7	2.05	< 0.80
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Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050894	2050895	2050896	2050897	2050898
Sample Reference				TP09	TP10	WS05	WS06	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.60	0.10	0.90	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)				Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	24	36	33	7.0	32
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	0.7	0.6	0.5	1.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	1.3	0.3	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	13	38	23	9.6	11
Copper (aqua regia extractable)	mg/kg	1	MCERTS	45	190	370	24	110
Lead (aqua regia extractable)	mg/kg	1	MCERTS	32	160	330	17	41
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	1.4	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	34	47	30	43
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	75	600	1300	1200	590

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
o-xylene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	-	-

Petroleum Hydrocarbons

TPH C10 - C40	mg/kg	10	MCERTS	< 10	73	240	< 10	< 10
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	-	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	-	< 2.0	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	-	< 8.0	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	-	< 10	-	-	-
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	-	< 0.001	-	-	-
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	-	< 0.001	-	-	-
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	-	< 0.001	-	-	-
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	-	< 1.0	-	-	-
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	-	5.3	-	-	-
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	-	18	-	-	-
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	-	37	-	-	-
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	-	61	-	-	-

VOCs

Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
Chloroethane	µg/kg	1	NONE	-	< 1.0	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050894	2050895	2050896	2050897	2050898
Sample Reference				TP09	TP10	WS05	WS06	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.60	0.10	0.90	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	-	-	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Tri bromomethane	µg/kg	1	NONE	-	< 1.0	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	-	-	-

SVOCs

Aniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050894	2050895	2050896	2050897	2050898
Sample Reference				TP09	TP10	WS05	WS06	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.60	0.10	0.90	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	< 0.1	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	< 0.05	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	0.23	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	2.7	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	0.51	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	8.6	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	6.9	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	6.0	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	4.4	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	5.1	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	2.4	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	3.6	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	2.1	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.76	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	2.5	-	-	-

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2050894	2050895	2050896	2050897	2050898
Sample Reference				TP09	TP10	WS05	WS06	TP15
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	0.60	0.10	0.90	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 21-17040
Project / Site name: Afan Way, Port Talbot
Your Order No:

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2050885	TP02	0.30	146	Loose Fibres	Chrysotile & Amosite & Crocidolite	0.003	0.003
2050889	TP06	1.60	135	Loose Fibres	Chrysotile	< 0.001	< 0.001
2050891	TP07	0.25	167	Loose Fibrous Debris & Sheeting/Board Debris	Chrysotile & Amosite	0.040	0.040
2050895	TP10	0.60	146	Loose Fibres	Chrysotile	< 0.001	< 0.001

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 21-17040

Project / Site name: Afan Way, Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2050884	TP01	None Supplied	2.5	Brown sandy clay.
2050885	TP02	None Supplied	0.3	Brown clay and sand with gravel.
2050886	TP03	None Supplied	1	Grey sandy clay with stones.
2050887	TP05	None Supplied	0.5	Brown sandy clay with gravel.
2050888	TP05	None Supplied	3	Brown clay.
2050889	TP06	None Supplied	1.6	Brown clay with gravel.
2050890	TP07	None Supplied	1.2	Brown clay and sand.
2050891	TP07	None Supplied	0.25	Brown sandy clay with gravel and vegetation.
2050892	TP08	None Supplied	1.2	Brown clay and sand with gravel.
2050893	TP08	None Supplied	1.6	Brown clay and sand with gravel.
2050894	TP09	None Supplied	0.5	Brown clay and sand with gravel.
2050895	TP10	None Supplied	0.6	Brown clay and sand with gravel.
2050896	WS05	None Supplied	0.1	Brown clay and sand with gravel and vegetation.
2050897	WS06	None Supplied	0.9	Grey clay and sand with gravel and vegetation.
2050898	TP15	None Supplied	1	Grey clay and sand with gravel.

Analytical Report Number : 21-17040

Project / Site name: Afan Way, Port Talbot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

Analytical Report Number : 21-17040
Project / Site name: Afan Way, Port Talbot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
TPH Banding in Soil by FID	Determination of hexane extractable hydrocarbons in soil by GC-FID.	In-house method, TPH with carbon banding and silica gel split/cleanup.	L076-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Organic matter (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 21-17040
Project / Site name: Afan Way, Port Talbot

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP01	None Supplied	S	2050884	ab	BTEX and MTBE in soil (Monoaromatics)	L073B-PL	b
TP01	None Supplied	S	2050884	ab	Semi-volatile organic compounds in soil	L064-PL	b
TP01	None Supplied	S	2050884	ab	TPHCWG (Soil)	L088/76-PL	b
TP01	None Supplied	S	2050884	ab	Volatile organic compounds in soil	L073B-PL	b
TP02	None Supplied	S	2050885	a	None Supplied	None Supplied	None Supplied
TP03	None Supplied	S	2050886	a	None Supplied	None Supplied	None Supplied
TP05	None Supplied	S	2050887	a	None Supplied	None Supplied	None Supplied
TP05	None Supplied	S	2050888	a	None Supplied	None Supplied	None Supplied
TP06	None Supplied	S	2050889	ab	Monohydric phenols in soil	L080-PL	b
TP06	None Supplied	S	2050889	ab	Speciated EPA-16 PAHs in soil	L064-PL	b
TP07	None Supplied	S	2050890	a	None Supplied	None Supplied	None Supplied
TP07	None Supplied	S	2050891	a	None Supplied	None Supplied	None Supplied
TP08	None Supplied	S	2050892	a	None Supplied	None Supplied	None Supplied
TP08	None Supplied	S	2050893	a	None Supplied	None Supplied	None Supplied
TP09	None Supplied	S	2050894	a	None Supplied	None Supplied	None Supplied
TP10	None Supplied	S	2050895	a	None Supplied	None Supplied	None Supplied
TP15	None Supplied	S	2050898	a	None Supplied	None Supplied	None Supplied
WS05	None Supplied	S	2050896	a	None Supplied	None Supplied	None Supplied
WS06	None Supplied	S	2050897	a	None Supplied	None Supplied	None Supplied

Cameron Wallace
Groundtech Consulting Ltd
First Floor, Lloyd House
Oxford Court
Greenfold Way
WN7 3XJ

t: 07449819886

e: cw@groundtechconsulting.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 21-17049

Project / Site name:	Afan Way, Port Talbot	Samples received on:	14/10/2021
Your job number:	GRO-21252	Samples instructed on/ Analysis started on:	14/10/2021
Your order number:		Analysis completed by:	25/10/2021
Report Issue Number:	1	Report issued on:	25/10/2021
Samples Analysed:	3 10:1 WAC samples		

Signed: *Karolina Marek*

Karolina Marek
PL Head of Reporting Team
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :	soils	- 4 weeks from reporting
	leachates	- 2 weeks from reporting
	waters	- 2 weeks from reporting
	asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	21-17049						
				Client: GRNDTECH			
Location	Afan Way, Port Talbot						
Lab Reference (Sample Number)	2050936 / 2050937			Landfill Waste Acceptance Criteria			
Sampling Date				Limits			
Sample ID	TP07			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Depth (m)	1.20						
Solid Waste Analysis							
TOC (%)**	0.6			3%	5%	6%	
Loss on Ignition (%) **	1.5			--	--	10%	
BTEX (µg/kg) **	< 10			6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007			1	--	--	
Mineral Oil (mg/kg)	< 10			500	--	--	
Total PAH (WAC-17) (mg/kg)	< 0.85			100	--	--	
pH (units)**	8.6			--	>6	--	
Acid Neutralisation Capacity (mol / kg)	3.8			--	To be evaluated	To be evaluated	
Eluate Analysis							
	10:1		10:1	Limit values for compliance leaching test			
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l		mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	< 0.0010		< 0.0100	0.5	2	25	
Barium *	0.0177		0.159	20	100	300	
Cadmium *	< 0.0001		< 0.0008	0.04	1	5	
Chromium *	0.0004		< 0.0040	0.5	10	70	
Copper *	0.0062		0.055	2	50	100	
Mercury *	< 0.0005		< 0.0050	0.01	0.2	2	
Molybdenum *	0.0031		0.0274	0.5	10	30	
Nickel *	0.0056		0.051	0.4	10	40	
Lead *	0.0040		0.036	0.5	10	50	
Antimony *	< 0.0017		< 0.017	0.06	0.7	5	
Selenium *	< 0.0040		< 0.040	0.1	0.5	7	
Zinc *	0.044		0.40	4	50	200	
Chloride *	0.98		8.8	800	15000	25000	
Fluoride	0.28		2.5	10	150	500	
Sulphate *	5.6		50	1000	20000	50000	
TDS*	47		420	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010		< 0.10	1	-	-	
DOC	7.19		64.5	500	800	1000	
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	82						
Moisture (%)	18						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.				* = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				** = MCERTS accredited			
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.							
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.							

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Waste Acceptance Criteria Analytical Results							
Report No:	21-17049						
				Client: GRNDTECH			
Location	Afan Way, Port Talbot						
Lab Reference (Sample Number)	2050938 / 2050939			Landfill Waste Acceptance Criteria			
				Limits			
Sampling Date				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	TP08						
Depth (m)	1.20						
Solid Waste Analysis							
TOC (%)**	1.6				3%	5%	6%
Loss on Ignition (%) **	4.7				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg)	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	83.0				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mol / kg)	14				--	To be evaluated	To be evaluated
Eluate Analysis							
	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	< 0.0010			< 0.0100	0.5	2	25
Barium *	0.0296			0.262	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0066			0.059	0.5	10	70
Copper *	0.0047			0.042	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	< 0.0004			< 0.0040	0.5	10	30
Nickel *	0.0049			0.043	0.4	10	40
Lead *	0.0031			0.027	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.039			0.34	4	50	200
Chloride *	1.7			15	800	15000	25000
Fluoride	0.18			1.6	10	150	500
Sulphate *	6.5			57	1000	20000	50000
TDS*	52			460	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.68			59.1	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	82						
Moisture (%)	18						
Results are expressed on a dry weight basis, after correction for moisture content where applicable.							
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation				** = MCERTS accredited			
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.							
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.							

i2 Analytical

7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email: reception@i2analytical.com

Waste Acceptance Criteria Analytical Results								
Report No:	21-17049							
					Client: GRNDTECH			
Location	Afan Way, Port Talbot							
Lab Reference (Sample Number)	2050940 / 2050941				Landfill Waste Acceptance Criteria			
					Limits			
Sampling Date					Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	TP10							
Depth (m)	0.60							
Solid Waste Analysis								
TOC (%)**	3.6				3%	5%	6%	
Loss on Ignition (%) **	8.8				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	< 0.007				1	--	--	
Mineral Oil (mg/kg)	37				500	--	--	
Total PAH (WAC-17) (mg/kg)	54.5				100	--	--	
pH (units)**	8.8				--	>6	--	
Acid Neutralisation Capacity (mol / kg)	10				--	To be evaluated	To be evaluated	
Eluate Analysis								
	10:1			10:1	Limit values for compliance leaching test			
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0104			0.0859	0.5	2	25	
Barium *	0.0518			0.429	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	< 0.0004			< 0.0040	0.5	10	70	
Copper *	0.011			0.089	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0009			0.0077	0.5	10	30	
Nickel *	0.0057			0.047	0.4	10	40	
Lead *	0.0044			0.036	0.5	10	50	
Antimony *	< 0.0017			< 0.017	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.0058			0.049	4	50	200	
Chloride *	1.0			8.3	800	15000	25000	
Fluoride	0.18			1.5	10	150	500	
Sulphate *	570			4700	1000	20000	50000	
TDS*	390			3200	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	3.02			25.0	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	0.30							
Dry Matter (%)	91							
Moisture (%)	8.8							
Results are expressed on a dry weight basis, after correction for moisture content where applicable.								
					* = UKAS accredited (liquid eluate analysis only)			
Stated limits are for guidance only and i2 cannot be held responsible for any discrepancies with current legislation					** = MCERTS accredited			
Landfill WAC analysis (specifically leaching test results) must not be used for hazardous waste classification purposes as defined by the Waste (England and Wales) Regulations 2011 (as amended) and EA Guidance WM3.								
This analysis is only applicable for landfill acceptance criteria (The Environmental Permitting (England and Wales) Regulations) and does not give any indication as to whether a waste may be hazardous or non-hazardous.								

Analytical Report Number : 21-17049

Project / Site name: Afan Way, Port Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2050936	TP07	None Supplied	1.2	Brown clay and sand.
2050938	TP08	None Supplied	1.2	Brown clay and sand with gravel.
2050940	TP10	None Supplied	0.6	Brown clay and sand with gravel.

Analytical Report Number : 21-17049
Project / Site name: Afan Way, Port Talbot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025

Analytical Report Number : 21-17049
Project / Site name: Afan Way, Port Talbot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report



Analytical Report Number : 21-17049
Project / Site name: Afan Way, Port Talbot

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP07	None Supplied	L	2050937	a	None Supplied	None Supplied	None Supplied
TP07	None Supplied	S	2050936	a	None Supplied	None Supplied	None Supplied
TP08	None Supplied	L	2050939	a	None Supplied	None Supplied	None Supplied
TP08	None Supplied	S	2050938	a	None Supplied	None Supplied	None Supplied
TP10	None Supplied	L	2050941	a	None Supplied	None Supplied	None Supplied
TP10	None Supplied	S	2050940	a	None Supplied	None Supplied	None Supplied



APPENDIX 9 - Geo-Environmental Testing (Groundwater)



Cameron Wallace
Groundtech Consulting Ltd
First Floor, Lloyd House
Oxford Court
Greenfold Way
WN7 3XJ

t: 07449819886

e: cw@groundtechconsulting.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 21-24373

Project / Site name:	Afan Way, Port Talbot	Samples received on:	19/11/2021
Your job number:	GRO-21252	Samples instructed on/ Analysis started on:	23/11/2021
Your order number:		Analysis completed by:	25/11/2021
Report Issue Number:	1	Report issued on:	25/11/2021
Samples Analysed:	4 water samples		

Signed: *A. Czerwińska*

Agnieszka Czerwińska
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.



Analytical Report Number: 21-24373
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2090277	2090278	2090279	2090280
Sample Reference				CP01	CP02	CP03	CP04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/11/2021	18/11/2021	18/11/2021	18/11/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

General Inorganics

pH	pH Units	N/A	ISO 17025	7.4	7.3	7.4	7.3
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO ₄	mg/l	0.045	ISO 17025	359	44.0	220	41.4
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	12.2	1.50	4.28	4.09

Hardness - Total	mg/l	1	ISO 17025	558	217	364	374
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Total Phenols

Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
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Speciated PAHs

Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01

Total PAH

Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16
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Heavy Metals / Metalloids

Boron (dissolved)	µg/l	10	ISO 17025	310	110	130	240
Calcium (dissolved)	mg/l	0.012	ISO 17025	140	69	120	120
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Magnesium (dissolved)	mg/l	0.005	ISO 17025	48	11	13	19

Arsenic (dissolved)	µg/l	0.15	ISO 17025	2.86	< 0.15	0.39	1.88
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.04	0.07	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.7	5.2	2.9	4.3
Copper (dissolved)	µg/l	0.5	ISO 17025	3.7	2.1	3.1	2.7
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	1.0	< 0.2
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	5.4	3.0	4.7	5.5
Selenium (dissolved)	µg/l	0.6	ISO 17025	1.1	0.7	0.7	< 0.6
Zinc (dissolved)	µg/l	0.5	ISO 17025	7.8	9.4	22	14



Analytical Report Number: 21-24373
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2090277	2090278	2090279	2090280
Sample Reference				CP01	CP02	CP03	CP04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/11/2021	18/11/2021	18/11/2021	18/11/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				

Monoaromatics & Oxygenates

Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

Petroleum Hydrocarbons

TPH1 (C10 - C40)	µg/l	10	NONE	< 10	< 10	< 10	< 10
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TPH-CWG - Aliphatic >C5 - C6	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

TPH-CWG - Aromatic >C5 - C7	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35)	µg/l	10	NONE	< 10	< 10	< 10	< 10

VOCs

Chloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Vinyl Chloride	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane	µg/l	1	NONE	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloro-1,2,2-trifluoroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trans-1,2-dichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromodichloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Cis-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0



Analytical Report Number: 21-24373
Project / Site name: Afan Way, Port Talbot

Lab Sample Number				2090277	2090278	2090279	2090280
Sample Reference				CP01	CP02	CP03	CP04
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				18/11/2021	18/11/2021	18/11/2021	18/11/2021
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status				
Trans-1,3-dichloropropene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2-Trichloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Dibromochloromethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromoethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Chlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,1,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Styrene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Tribromomethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-Xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,1,2,2-Tetrachloroethane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Isopropylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Bromobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
n-Propylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
2-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
4-Chlorotoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3,5-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
tert-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trimethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
sec-Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,3-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p-Isopropyltoluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Butylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dibromo-3-chloropropane	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,4-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Hexachlorobutadiene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
1,2,3-Trichlorobenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-24373
Project / Site name: Afan Way, Port Talbot

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	NONE
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Volatile organic compounds in water	Determination of volatile organic compounds in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
TPH1 (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS.	In-house method	L070-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.



Analytical Report Number : 21-24373
Project / Site name: Afan Way, Port Talbot

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Sample Deviation Report



Analytical Report Number : 21-24373
Project / Site name: Afan Way, Port Talbot

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
CP01	None Supplied	W	2090277	c	pH at 20oC in water (automated)	L099-PL	c
CP02	None Supplied	W	2090278	c	pH at 20oC in water (automated)	L099-PL	c
CP03	None Supplied	W	2090279	c	pH at 20oC in water (automated)	L099-PL	c
CP04	None Supplied	W	2090280	c	pH at 20oC in water (automated)	L099-PL	c

APPENDIX 10 - Geotechnical Testing



LABORATORY REPORT



4043

Contract Number: PSL21/8503

Report Date: 15 November 2021

Client's Reference:

Client Name: Groundtech Consulting
First Floor
Lloyd House
Orford Court
Greenfold Way
WN7 3XJ

For the attention of: Cameron Wallace

Contract Title: Afan Way, Port Talbot

Date Received: 29/10/2021

Date Commenced: 29/10/2021

Date Completed: 15/11/2021

Notes: Opinions and Interpretations are outside the UKAS Accreditation

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced other than in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

A Watkins
(Director)

R Berriman
(Quality Manager)

S Royle
(Laboratory Manager)

L Knight
(Senior Technician)

S Eyre
(Senior Technician)


T Watkins
(Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: awatkins@prosoils.co.uk
rberriman@prosoils.co.uk

Page 1 of

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

[illegible]

4043

PSL
Professional Soils Laboratory

Afan Way, Port Talbot

Contract No:

PSL21/8503

Client Ref:

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

[illegible]

SYMBOLS : NP : Non Plastic

*** : Liquid Limit and Plastic Limit Wet Sieved.**



4043

PSL
Professional Soils Laboratory

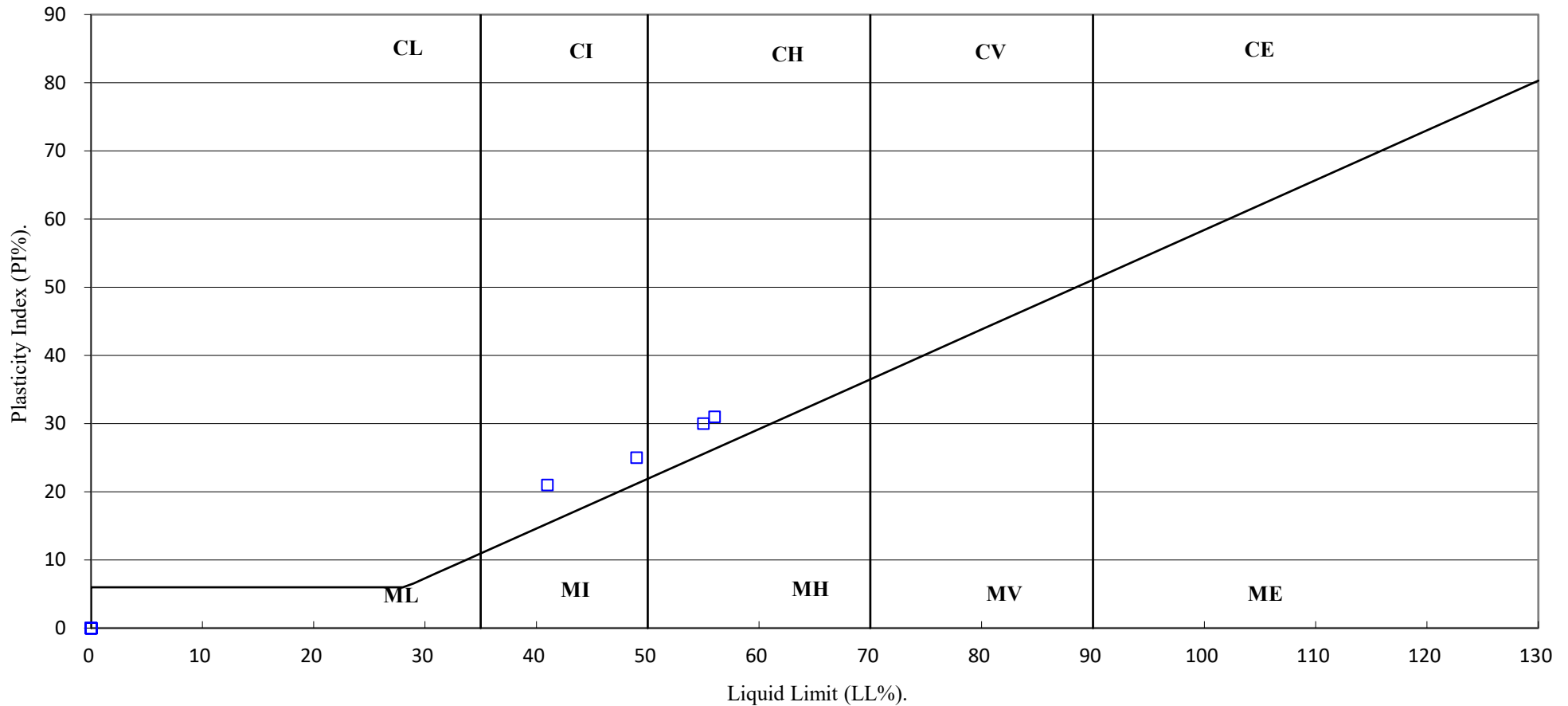
Afan Way, Port Talbot

Contract No:

PSL21/8503

Client Ref:

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



4043

PSL

Professional Soils Laboratory

Afan Way, Port Talbot

Contract No:

PSL21/8503

Client Ref:

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

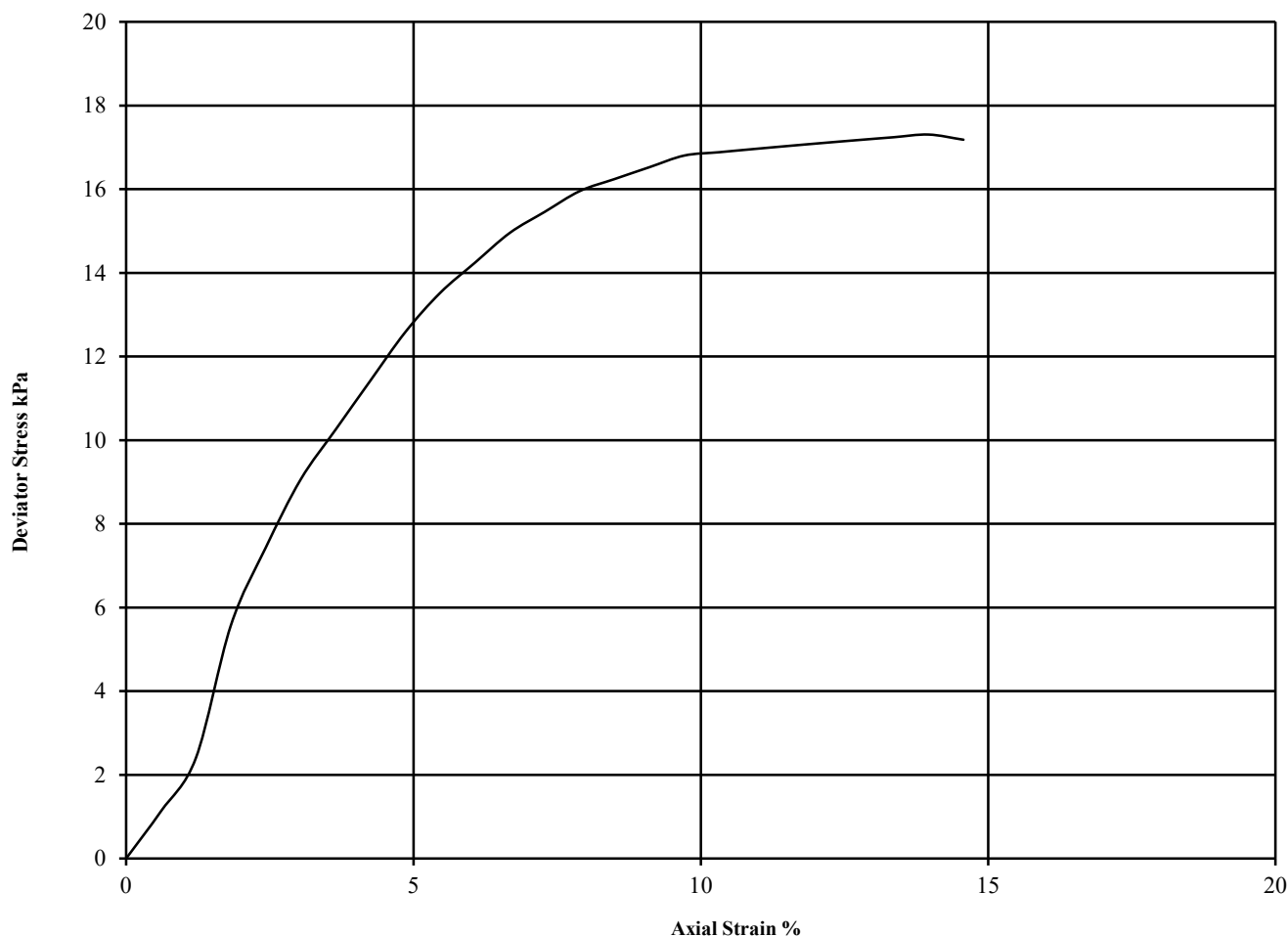
Hole Number: CP1

Top Depth (m): 3.00

Sample Number:

Base Depth (m): 3.45

Sample Type U



Diameter (mm):		102	Height (mm):		168	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.35 See summary of soil descriptions
				θ_3	$(\theta_1 - \theta_3)_f$	$\frac{1}{2}(\theta_1 - \theta_3)_f$			
1	34	1.86	1.39	60	17	9	14.0	Plastic	



4043

PSL

Professional Soils Laboratory

Afan Way, Port Talbot.

Contract No:

PSL21/8503

Client Ref:

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

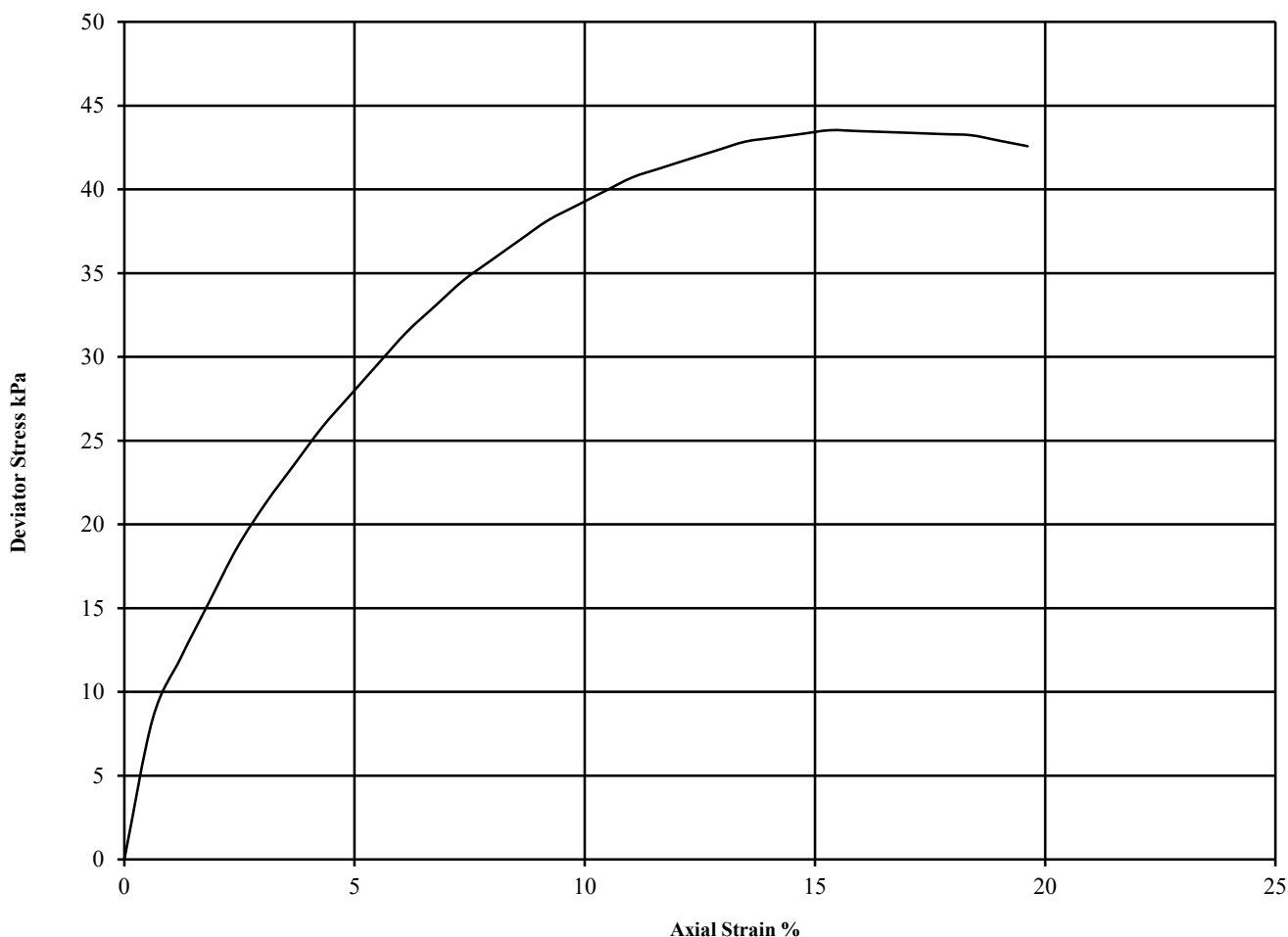
Hole Number: CP02

Top Depth (m): 4.00

Sample Number:

Base Depth (m): 4.45

Sample Type U



Diameter (mm):		103	Height (mm):		168	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.34 See summary of soil descriptions
				θ_3	$(\theta_1 - \theta_3)_f$	$\frac{1}{2}(\theta_1 - \theta_3)_f$			
1	26	1.80	1.43	80	44	22	15.3	Plastic	



4043

PSL

Professional Soils Laboratory

Afan Way, Port Talbot.

Contract No:

PSL21/8503

Client Ref:

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

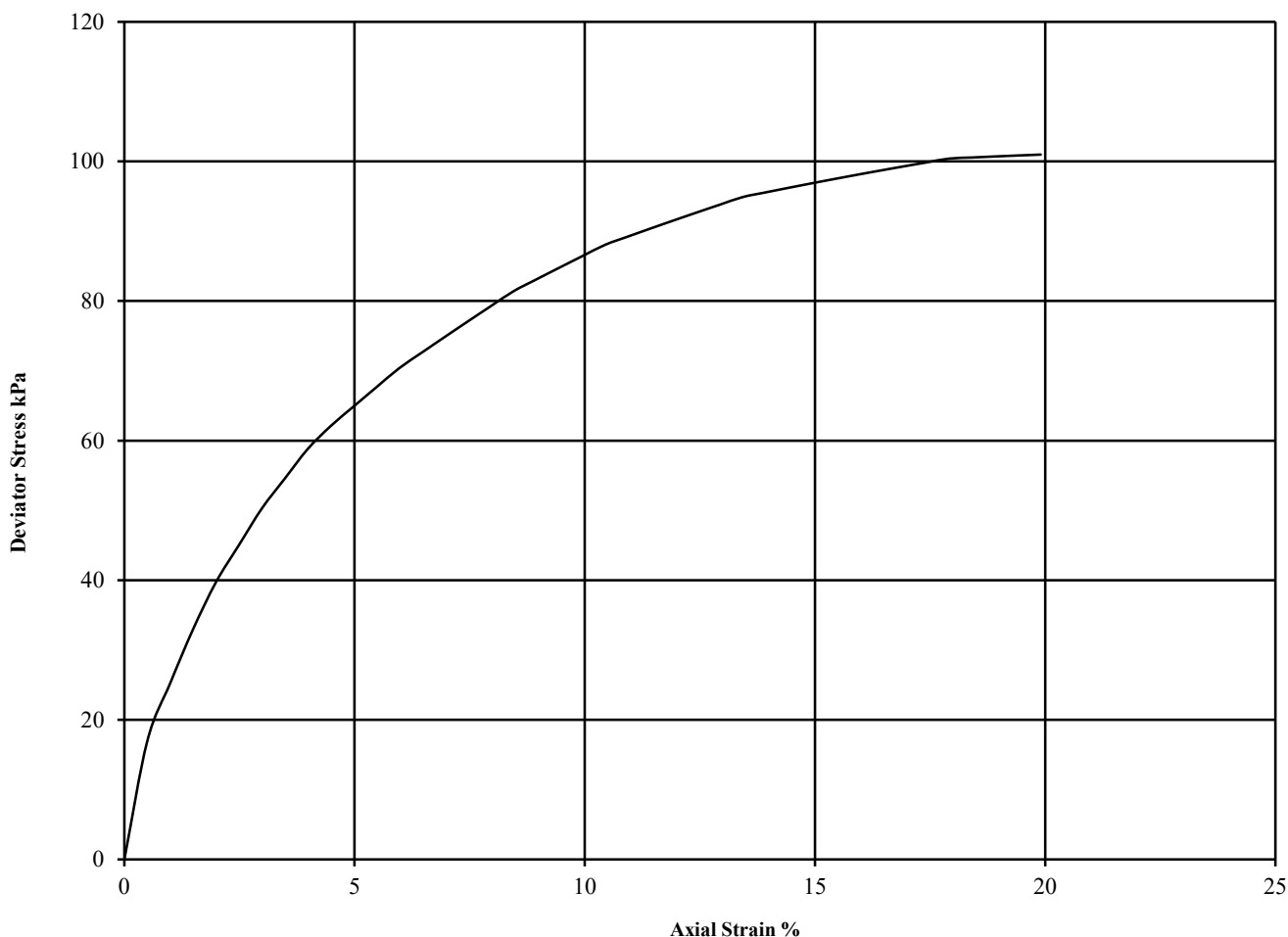
Hole Number: CP03

Top Depth (m): 4.00

Sample Number:

Base Depth (m): 4.45

Sample Type U



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.33 See summary of soil descriptions
				θ_3	$(\theta_1 - \theta_3)_f$	$\frac{1}{2}(\theta_1 - \theta_3)_f$			
1	24	2.00	1.61	80	101	50	19.9	Plastic	



4043

PSL
Professional Soils Laboratory

Afan Way, Port Talbot.

Contract No:

PSL21/8503

Client Ref:

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

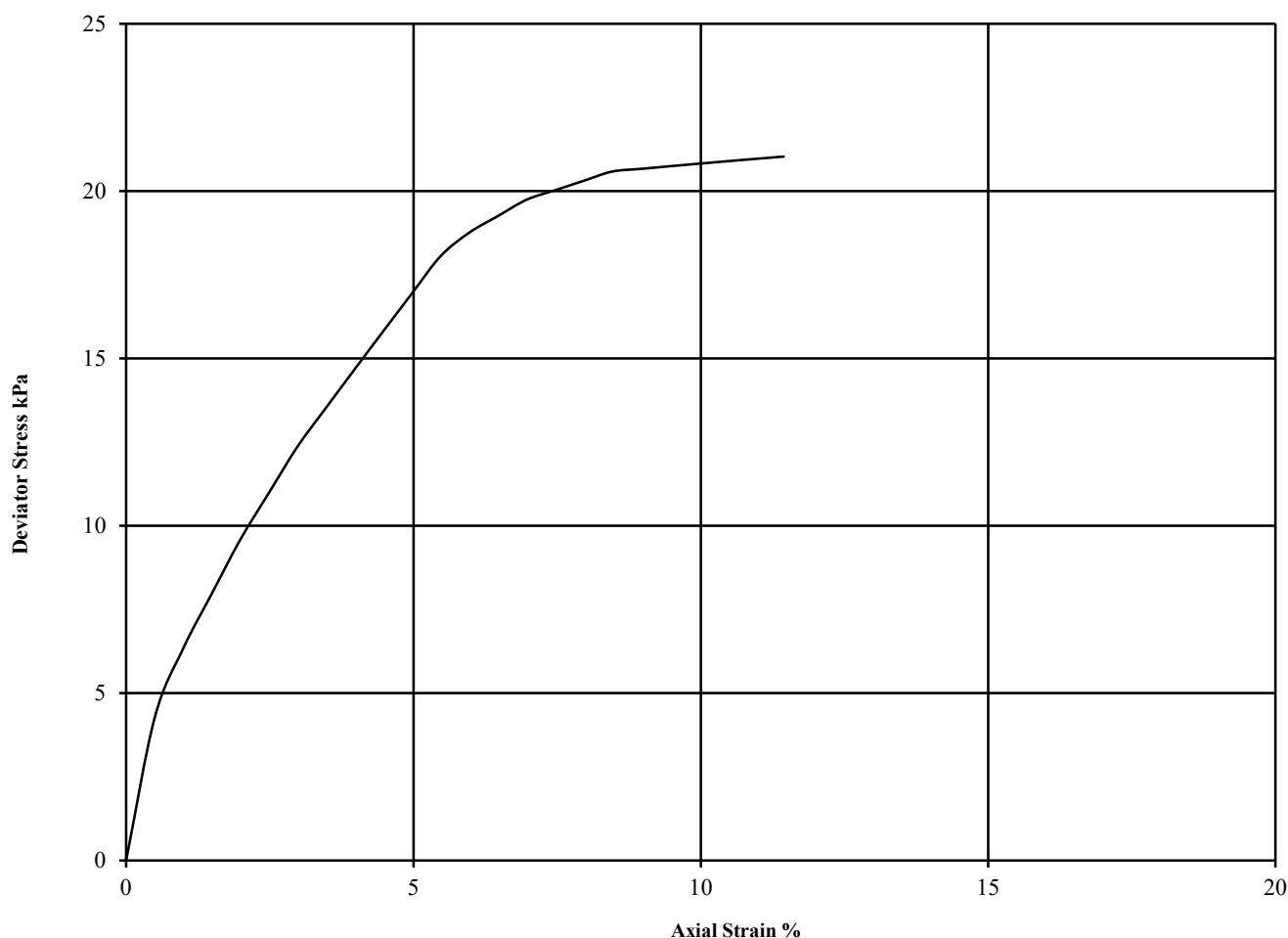
Hole Number: CP04

Top Depth (m): 3.50

Sample Number:

Base Depth (m): 3.95

Sample Type U



Diameter (mm):		103	Height (mm):		207	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m ³)	Dry Density (Mg/m ³)	Cell Pressure (kPa)	Corr. Max. Deviator Stress (kPa)	Shear Strength Cu (kPa)	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.35 See summary of soil descriptions
				θ_3	$(\theta_1 - \theta_3)_f$	$\frac{1}{2}(\theta_1 - \theta_3)_f$			
1	36	1.84	1.35	70	21	11	11.4	Plastic	



4043

PSL

Professional Soils Laboratory

Afan Way, Port Talbot.

Contract No:

PSL21/8503

Client Ref:

**Robbie Moore**

Waterman Infrastructure & Environment Ltd
Pickfords Wharf
Clink Street
London
SE1 9DG

t: 02079287888

e: robbie.moore@watermangroup.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404

f: 01923 237404

e: reception@i2analytical.com

Analytical Report Number : 21-18635

Project / Site name:	Afan Way Pork Talbot	Samples received on:	04/10/2021
Your job number:	GRO 21252	Samples instructed on/ Analysis started on:	14/10/2021
Your order number:	2121	Analysis completed by:	04/11/2021
Report Issue Number:	1	Report issued on:	04/11/2021
Samples Analysed:	3 soil samples		

Signed:

Izabela Wójcik

Izabela Wójcik
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 21-18635
Project / Site name: Afan Way Pork Talbot

Lab Sample Number				2059954	2059955	2059956
Sample Reference				TP2	TP3	TP6
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				3.00	1.50	2.80
Date Sampled				Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	27	21	18
Total mass of sample received	kg	0.001	NONE	0.60	0.40	0.60

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.4	7.4	7.7
Total Sulphate as SO ₄	%	0.005	MCERTS	0.027	0.037	0.085
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.036	0.024	0.23
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	36.0	24.3	233
Water Soluble Chloride (2:1) (leachate equivalent)	mg/l	0.5	MCERTS	30	2.2	4.3
Total Sulphur	%	0.005	MCERTS	0.020	0.030	0.115
Water Soluble Nitrate (2:1) as N (leachate equivalent)	mg/l	2	NONE	2.1	2.0	< 2.0

Heavy Metals / Metalloids

Magnesium (water soluble)	mg/kg	5	NONE	250	18	7.0
Magnesium (leachate equivalent)	mg/l	2.5	NONE	130	8.7	3.5

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number : 21-18635
Project / Site name: Afan Way Pork Talbot

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2059954	TP2	None Supplied	3	Brown clay.
2059955	TP3	None Supplied	1.5	Brown clay and sand.
2059956	TP6	None Supplied	2.8	Brown clay and sand.

Analytical Report Number : 21-18635
Project / Site name: Afan Way Pork Talbot

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Magnesium, water soluble, in soil	Determination of water soluble magnesium by extraction with water followed by ICP-OES.	In-house method based on TRL 447	L038-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total Sulphate in soil as %	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Total Sulphur in soil as %	Determination of total sulphur in soil by extraction with aqua-regia, potassium bromide/bromate followed by ICP-OES.	In house method.	L038-PL	D	MCERTS
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Water Soluble Nitrate (2:1) as N in soil	Determination of nitrate by reaction with sodium salicylate and colorimetry.	In-house method based on Examination of Water and Wastewater & Polish Standard Method PN-82/C-04579.08, 2:1 extraction.	L078-PL	W	NONE
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Sulphate, water soluble, in soil	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 21-18635
Project / Site name: Afan Way Pork Talbot

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
TP2	None Supplied	S	2059954	a	None Supplied	None Supplied	None Supplied
TP3	None Supplied	S	2059955	a	None Supplied	None Supplied	None Supplied
TP6	None Supplied	S	2059956	a	None Supplied	None Supplied	None Supplied



APPENDIX 11 - Interim Permanent Gas Monitoring Results

GROUNDTECH
CONSULTING

Pressure Trend:	Rising	Weather:	Overcast			Equipment:	GFM 436	
Ambient:	O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)		
Start	20.3	0.0	0.0	0.0	0.0	0.0		
Finish	20.3	0.0	0.0	0.0	0.0	0.0		

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP01	0.0	0.0	0.00	0.0	0.0	0.0	1.1	0.5	17.8	19.2	0.0	0.0	0.0	0.0	0.0011	0.0000	1027	-	N	3.02
CP02	0.0	0.0	0.00	0.0	0.0	0.0	3.1	1.6	14.4	17.3	0.0	0.0	0.0	0.0	0.0031	0.0000	1027	-	N	2.80
CP03	0.0	0.0	0.00	0.0	0.0	0.0	2.0	0.8	12.5	16.9	0.0	0.0	0.0	0.0	0.0020	0.0000	1027	-	N	2.95
CP04	0.0	0.0	0.00	0.0	0.0	0.0	1.4	0.4	18.2	19.8	0.0	0.0	0.0	0.0	0.0014	0.0000	1027	-	N	2.58
WS02	0.0	0.0	0.00	0.0	0.0	0.0	4.2	0.4	4.3	18.9	0.0	0.0	0.0	0.0	0.0042	0.0000	1027	-	N	1.88
WS03	0.0	0.0	0.00	0.0	0.0	0.0	3.9	3.9	14.9	15.0	0.0	0.0	0.0	0.0	0.0039	0.0000	1027	-	N	NGW
WS05	0.0	0.0	0.00	0.0	0.0	0.0	2.4	2.4	16.3	16.3	0.0	0.0	0.0	0.0	0.0024	0.0000	1027	-	N	1.84
WS06	0.0	0.0	0.00	4.0	1.8	80.0	2.6	1.5	15.7	17.8	0.0	0.0	0.0	0.0	0.0026	0.0040	1027	-	N	2.22
Notes:																				

PERMANENT GROUND GAS MONITORING FORM



SITE NAME:	AFAN WAY, PORT TALBOT	ENGINEER:	Josh Turton
CLIENT:	ALDI STORES LIMITED	DATE:	09/12/2021
JOB NO:	GRO-21252		

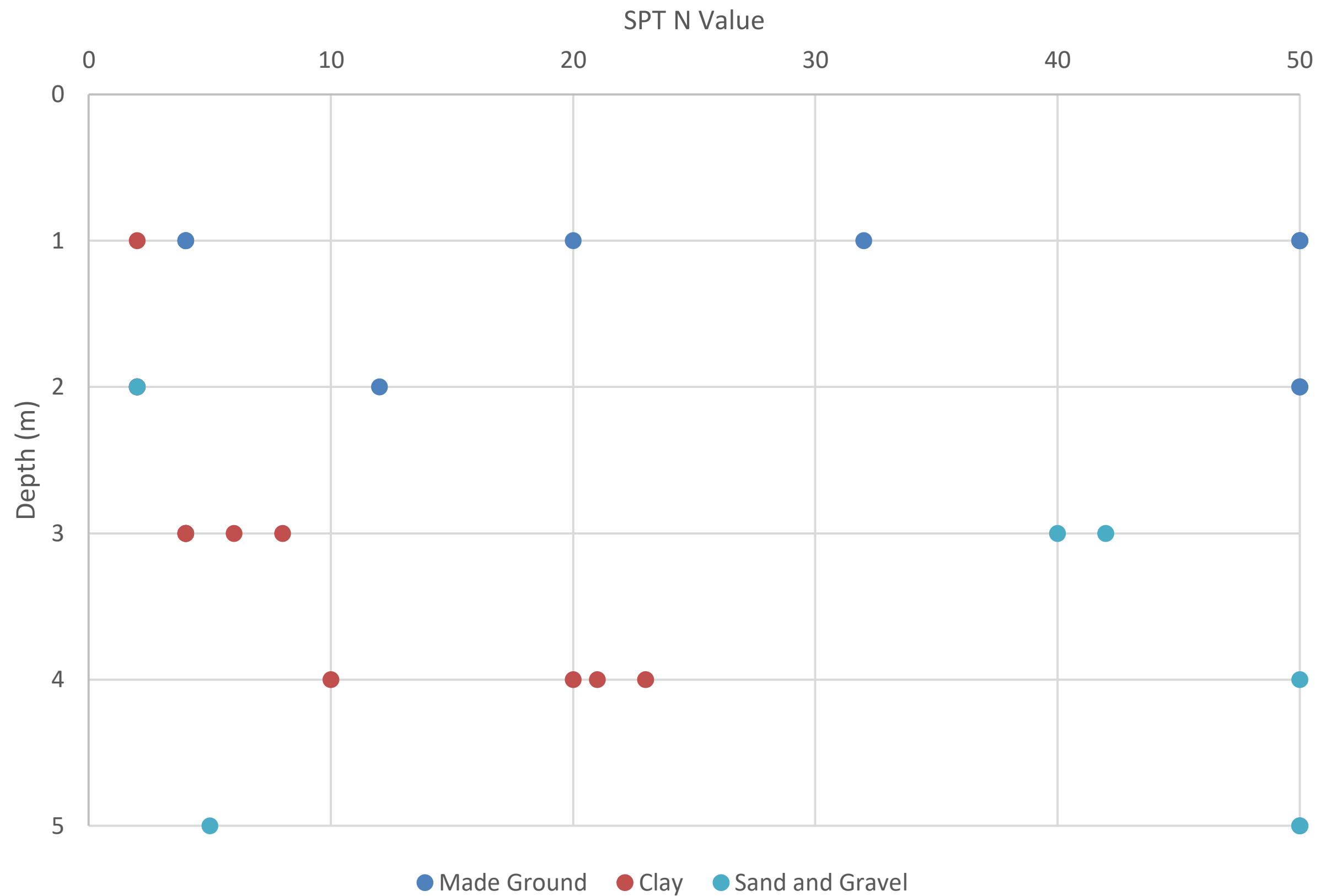
Pressure Trend:	Steady	Weather:	Overcast			Equipment:	GFM 436	
Ambient:	O ₂ (%v/v)	CH ₄ (%v/v)	CO ₂ (%v/v)	LEL	H ₂ S (ppm)	CO (ppm)		
Start	20.5	0.0	0.0	0.0	0.0	0.0		
Finish	20.4	0.0	0.0	0.0	0.0	0.0		

BH Ref.	Gas Flow Rate (l/hr)		Borehole Pressure (mb)	Methane (%v/v)			Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)		Carbon Monoxide (ppm)		Q _{hg} CO ₂ (l/hr)	Q _{hg} CH ₄ (l/hr)	Atmos Press (mb)	PID (ppm)	Sheen (Y/N)	Depth to Water (m bgl)
	Peak	Steady		Peak	Steady	LEL	Peak	Steady	Peak	Steady	Peak	Steady	Peak	Steady						
CP01	0.0	0.0	0.00	0.0	0.0	0.0	1.0	0.4	18.0	19.2	0.0	0.0	0.0	0.0	0.0010	0.0000	1003	-	N	2.89
CP02	0.0	0.0	0.00	0.0	0.0	0.0	3.5	1.9	13.5	18.2	0.0	0.0	0.0	0.0	0.0035	0.0000	1003	-	N	2.75
CP03	0.0	0.0	0.00	0.0	0.0	0.0	1.8	0.8	13.0	16.9	0.0	0.0	0.0	0.0	0.0018	0.0000	1003	-	N	2.74
CP04	0.0	0.0	0.00	0.0	0.0	0.0	0.8	0.0	19.1	19.8	0.0	0.0	0.0	0.0	0.0008	0.0000	1003	-	N	2.79
WS02	0.0	0.0	0.00	0.0	0.0	0.0	3.7	0.0	15.3	20.1	0.0	0.0	0.0	0.0	0.0037	0.0000	1003	-	N	1.55
WS03	0.0	0.0	0.00	0.0	0.0	0.0	3.7	3.5	16.2	16.8	0.0	0.0	0.0	0.0	0.0037	0.0000	1003	-	N	NGW
WS05	0.0	0.0	0.00	0.0	0.0	0.0	1.5	1.4	17.3	17.8	0.0	0.0	0.0	0.0	0.0015	0.0000	1003	-	N	1.67
WS06	0.0	0.0	0.00	2.0	0.6	40.0	1.3	0.9	17.8	19.2	0.0	0.0	0.0	0.0	0.0013	0.0020	1003	-	N	2.10

Notes:



APPENDIX 12 - Generalised Ground Model



APPENDIX 13 - Plate Load Test Results



Laboratory Report



Contract Number: 56030

Client Ref:

Report Date: **01-10-2021**

Client PO:

Client **Groundtech Consulting Limited**
First Floor
Lloyd House
Orford Court
Greenfold Way
WN7 3XJ

Contract Title: **Burrows Yard**
For the attention of: **Michael Berry**

Date Received: **01-10-2021**
Date Completed: **01-10-2021**

Test Description	Qty
Day rate to provide Technician and equipment including mobilisation but excluding provision of machine as kentledge (to be provided by others) & Determination of the vertical deformation and strength characteristics of soil by the plate loading test, using a 600 mm diameter steel plate. The test comprises 5 No. loading and 1 No. unloading cycles, as specified by the Client. As many tests are required by client that can be done in one day.	1
- * UKAS	

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 certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved Signatories:

Emma Sharp (Business Support Manager) - Paul Evans (Director) - Richard John (Quality/Technical Manager)
Shaun Jones (Laboratory manager) - Shaun Thomas (Site Manager) - Wayne Honey (Quality Assistant / Administrator / Health and Safety Coordinator)



**Determination of the Vertical Deformation Tests BS
1377: Part 9: 1990 Clause 4.8**

Contract Number

56030

Client Reference

0

Client

Groundtech Consulting Limited

Test Date

29/09/2021

Site Location

Burrows Yard

Test Location

PLT 1

Soil Description

Made Ground

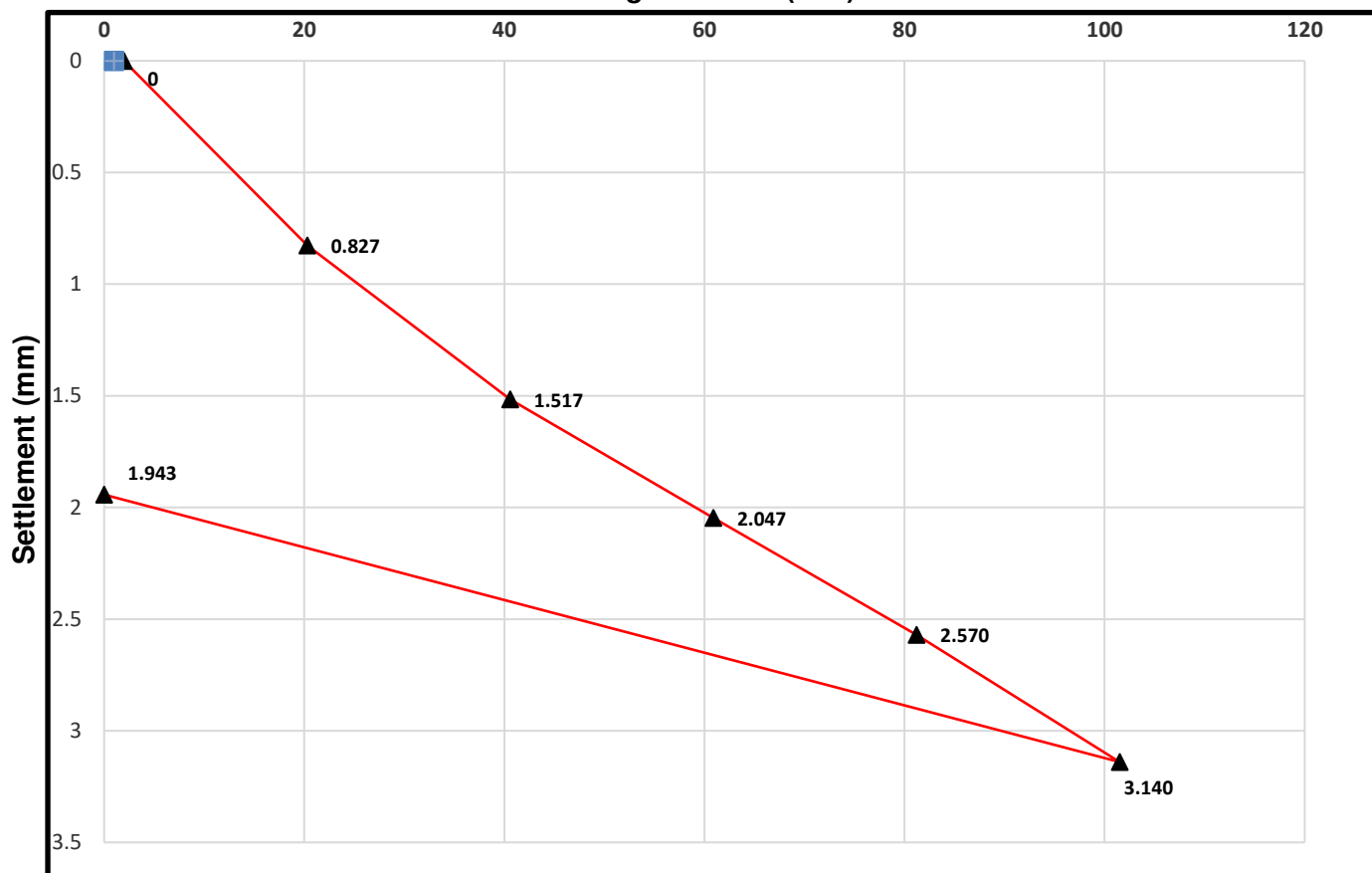
Test Depth (m)

GL

Kentledge Type

Tracked Excavator

Bearing Pressure (kPa)



Maximum Applied Pressure (kn/m2)

101.51

Maximum Deformation (mm)

3.14

Plate Area (m2)

0.28805

Assumed Poissons Ratio

0.25

Remarks

Test Operator

Checked and Authorised by

Shaun Thomas

Shaun Thomas

Date

01/10/2021





**Determination of the Vertical Deformation Tests BS
1377: Part 9: 1990 Clause 4.8**

Contract Number

56030

Client Reference

0

Client

Groundtech Consulting Limited

Test Date

29/09/2021

Site Location

Burrows Yard

Test Location

PLT 2

Soil Description

Made Ground

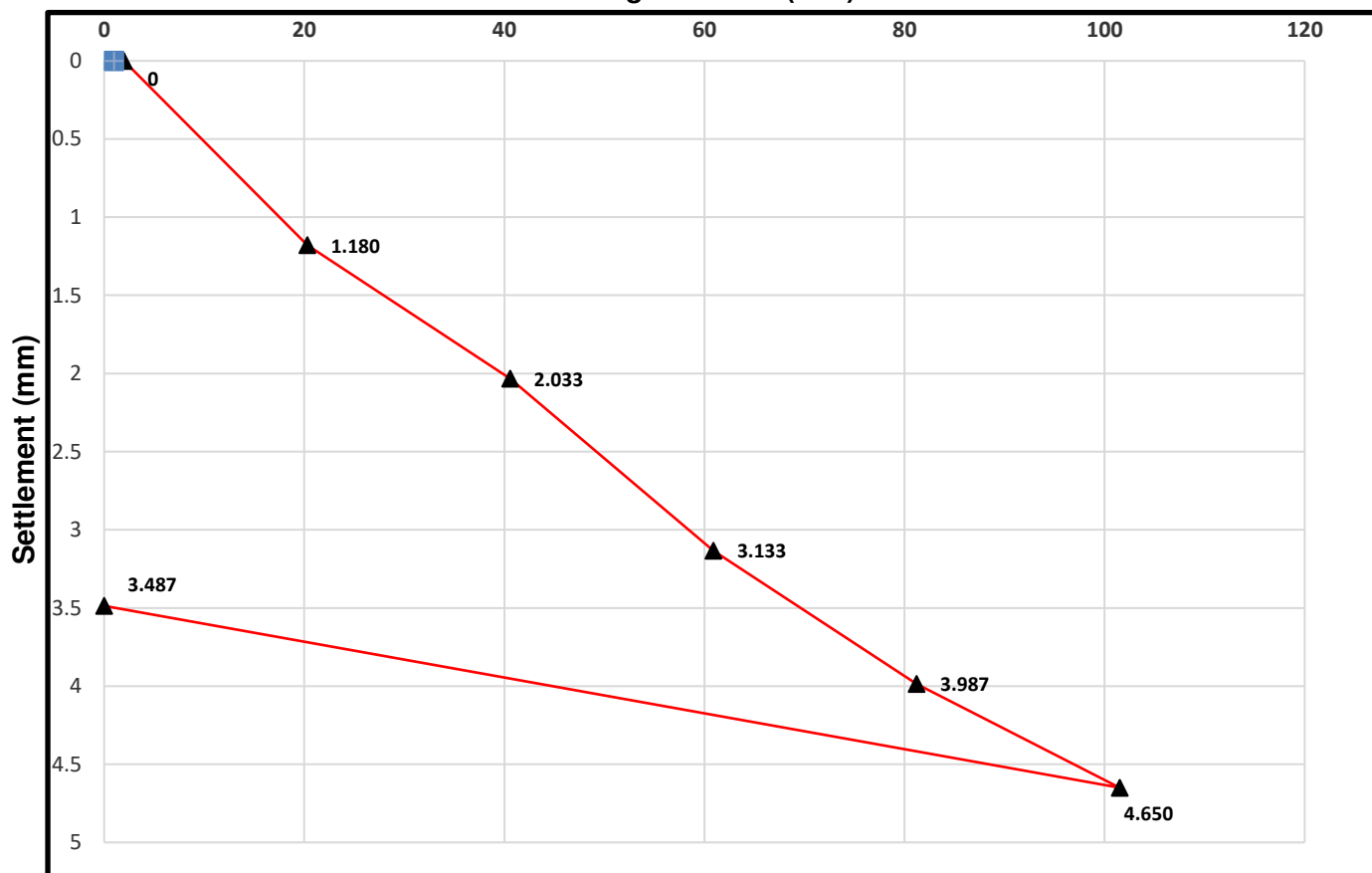
Test Depth (m)

GL

Kentledge Type

Tracked Excavator

Bearing Pressure (kPa)



Maximum Applied Pressure (kn/m²)

101.51

Maximum Deformation (mm)

4.65

Plate Area (m²)

0.28805

Assumed Poissons Ratio

0.25

Remarks

Test Operator

Checked and Authorised by

Shaun Thomas

Shaun Thomas

Date

01/10/2021





**Determination of the Vertical Deformation Tests BS
1377: Part 9: 1990 Clause 4.8**

Contract Number

56030

Client Reference

0

Client

Groundtech Consulting Limited

Test Date

29/09/2021

Site Location

Burrows Yard

Test Location

PLT 3

Soil Description

Made Ground

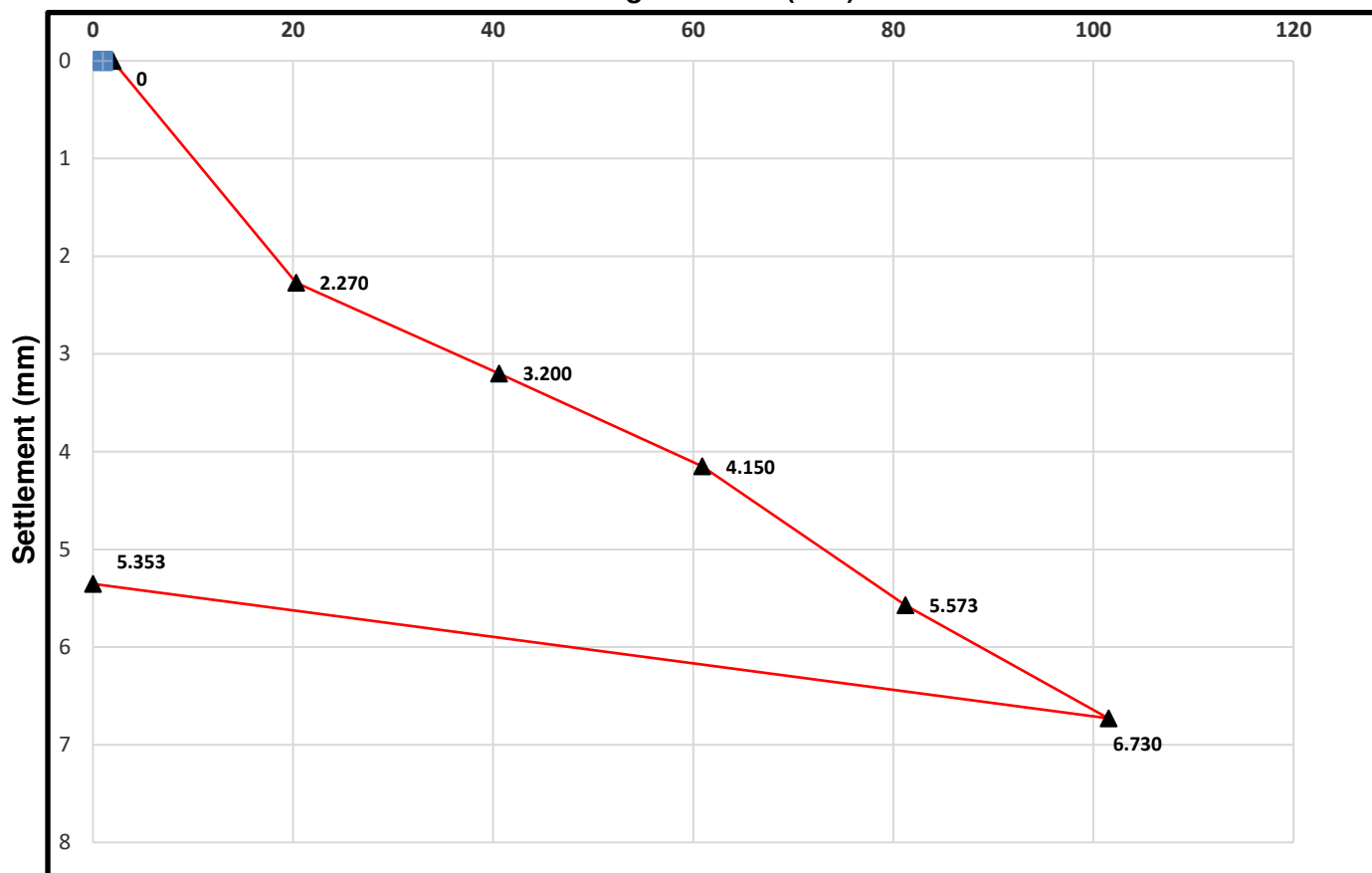
Test Depth (m)

GL

Kentledge Type

Tracked Excavator

Bearing Pressure (kPa)



Maximum Applied Pressure (kn/m2)

101.51

Maximum Deformation (mm)

6.73

Plate Area (m2)

0.28805

Assumed Poissons Ratio

0.25

Remarks

Test Operator

Checked and Authorised by

Shaun Thomas

Shaun Thomas

Date

01/10/2021





**Determination of the Vertical Deformation Tests BS
1377: Part 9: 1990 Clause 4.8**

Contract Number

56030

Client Reference

0

Client

Groundtech Consulting Limited

Test Date

29/09/2021

Site Location

Burrows Yard

Test Location

PLT 4

Soil Description

Made Ground

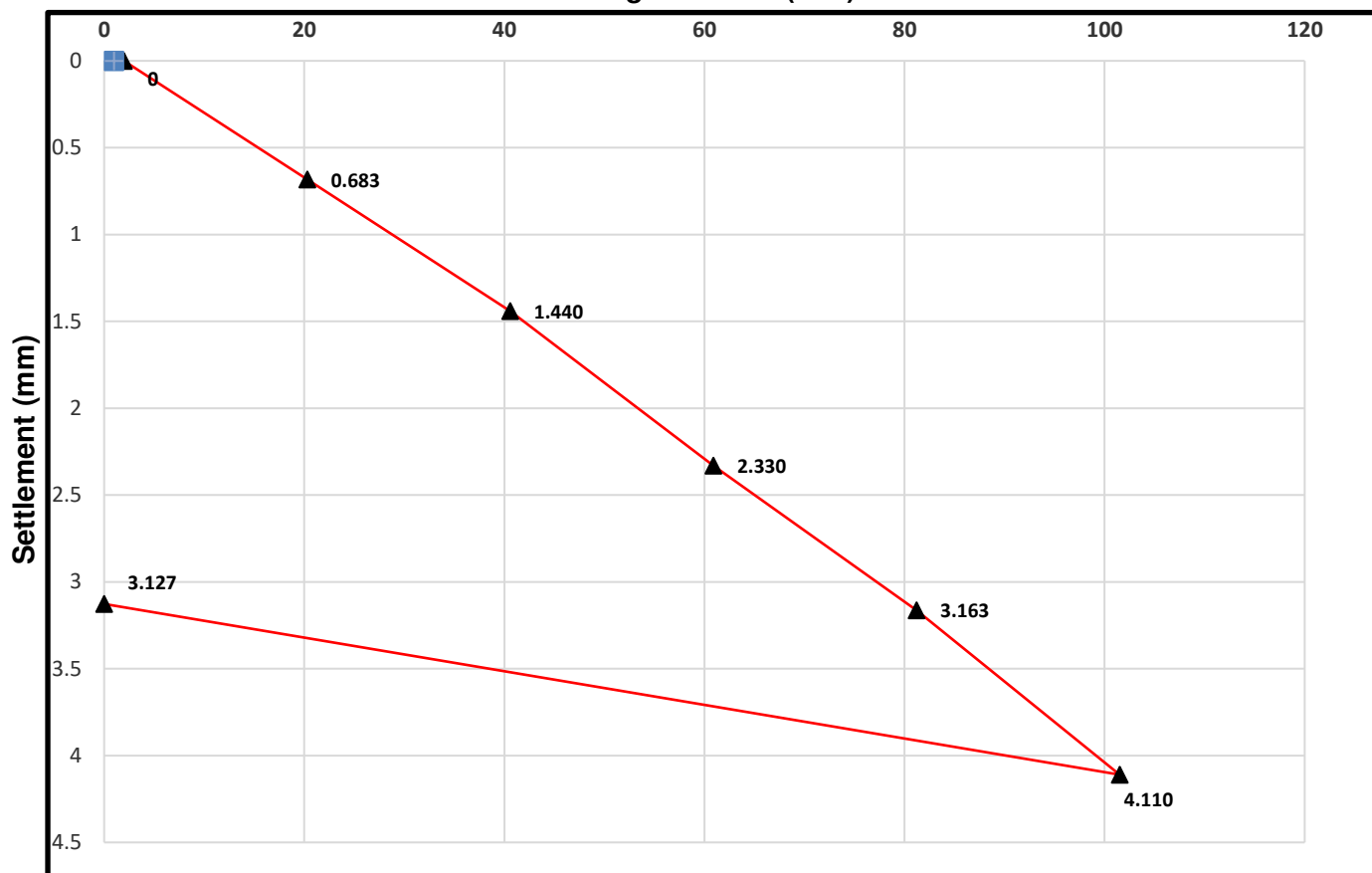
Test Depth (m)

GL

Kentledge Type

Tracked Excavator

Bearing Pressure (kPa)



Maximum Applied Pressure (kn/m2)

101.51

Maximum Deformation (mm)

4.11

Plate Area (m2)

0.28805

Assumed Poissons Ratio

0.25

Remarks

Test Operator

Checked and Authorised by

Shaun Thomas

Shaun Thomas

Date

01/10/2021





**Determination of the Vertical Deformation Tests BS
1377: Part 9: 1990 Clause 4.8**

Contract Number

56030

Client Reference

0

Client

Groundtech Consulting Limited

Test Date

29/09/2021

Site Location

Burrows Yard

Test Location

PLT 5

Soil Description

Made Ground

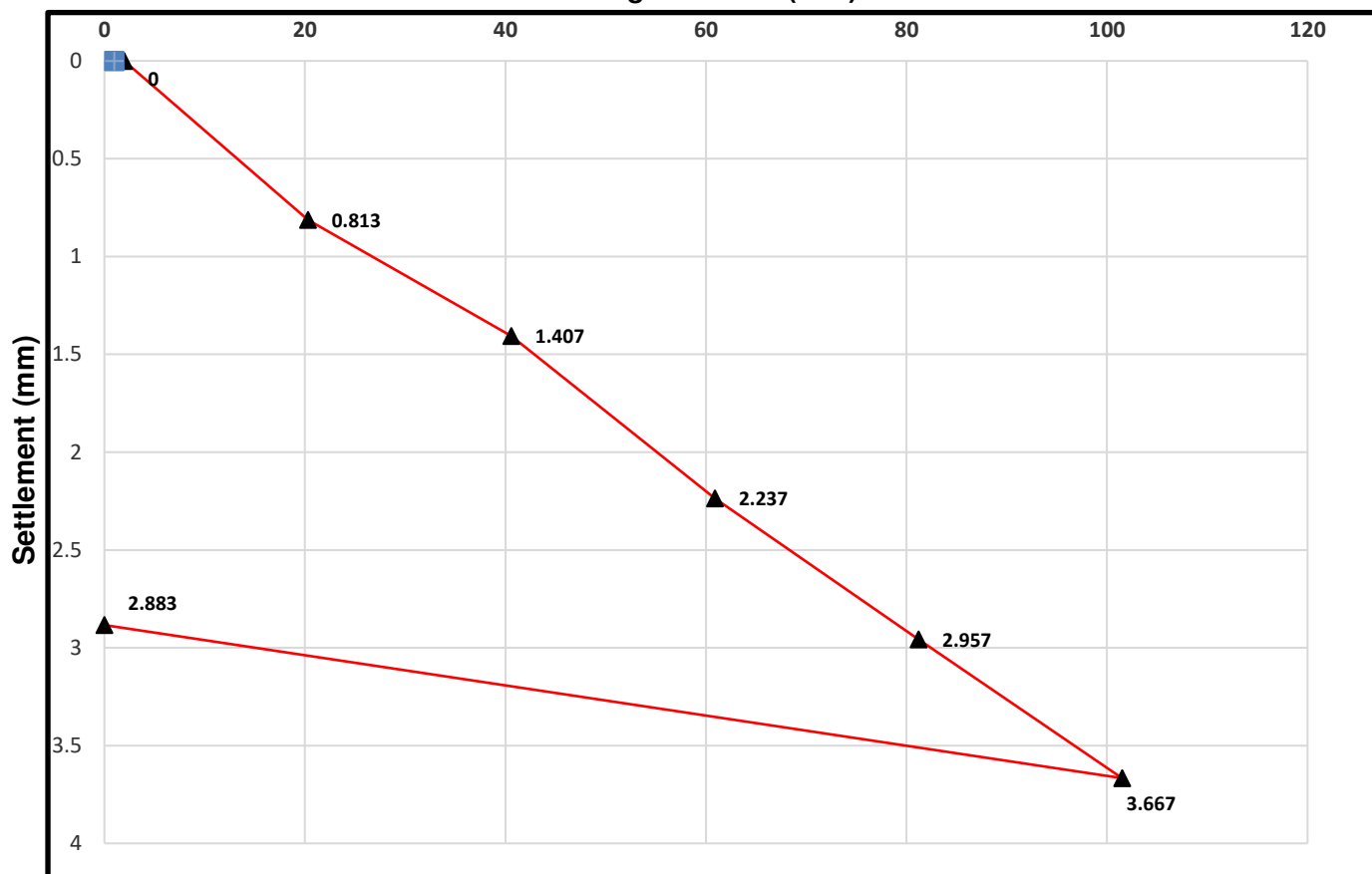
Test Depth (m)

GL

Kentledge Type

Tracked Excavator

Bearing Pressure (kPa)



Maximum Applied Pressure (kn/m2)

101.51

Maximum Deformation (mm)

3.67

Plate Area (m2)

0.28805

Assumed Poissons Ratio

0.25

Remarks

Test Operator

Checked and Authorised by

Shaun Thomas

Shaun Thomas

Date

01/10/2021





**Determination of the Vertical Deformation Tests BS
1377: Part 9: 1990 Clause 4.8**

Contract Number

56030

Client Reference

0

Client

Groundtech Consulting Limited

Test Date

29/09/2021

Site Location

Burrows Yard

Test Location

PLT 6

Soil Description

Made Ground

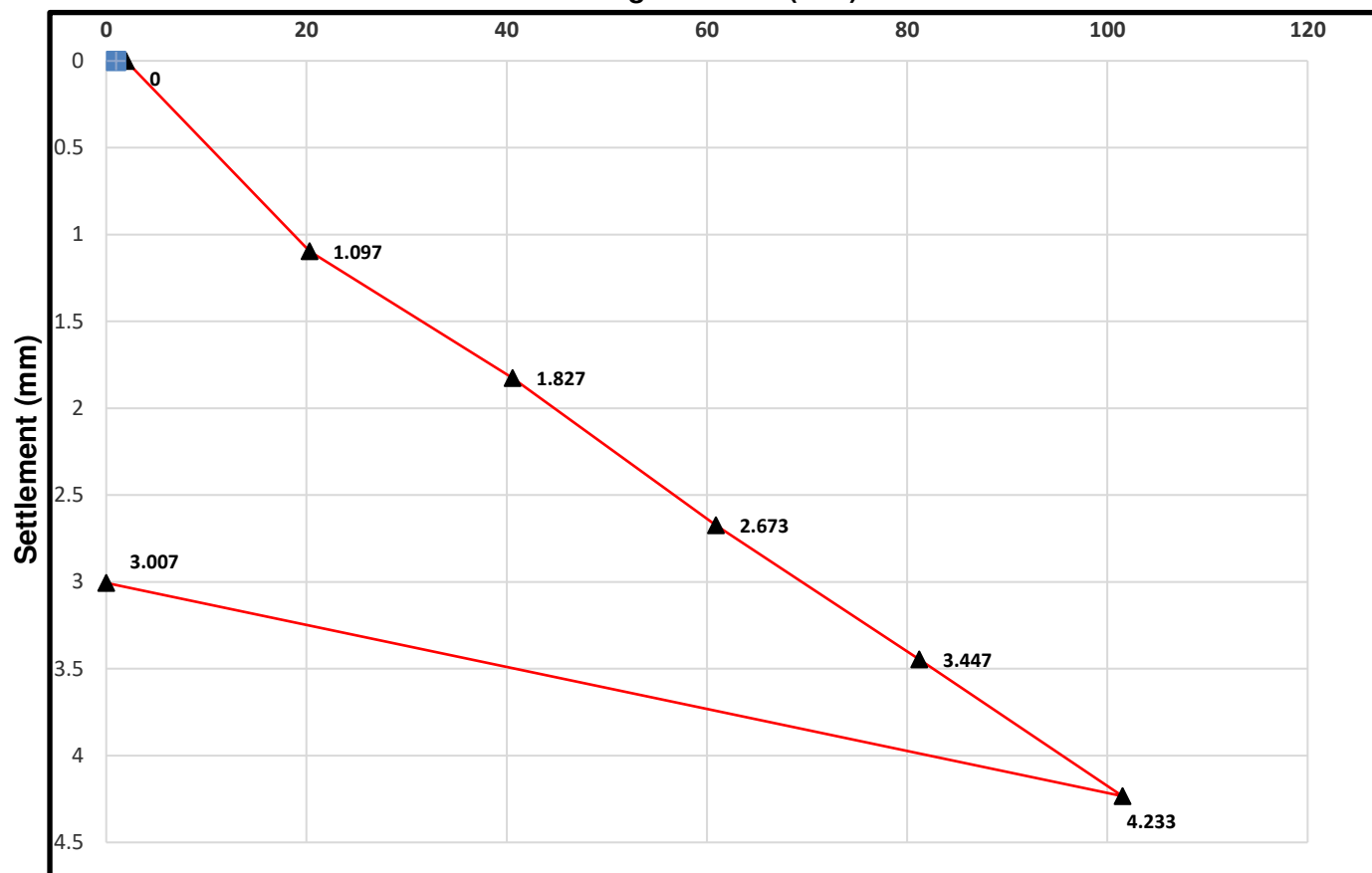
Test Depth (m)

GL

Kentledge Type

Tracked Excavator

Bearing Pressure (kPa)



Maximum Applied Pressure (kn/m²)

101.51

Maximum Deformation (mm)

4.23

Plate Area (m²)

0.28805

Assumed Poissons Ratio

0.25

Remarks

Test Operator

Checked and Authorised by

Shaun Thomas

Shaun Thomas

Date

01/10/2021





APPENDIX 14 - Generic Screening Values (Commercial)

Generic Tier I Generic Assessment Criteria (GAC)								GROUNDTECH CONSULTING	
Proposed End Use	Unit	Residential with Plant Uptake			Commercial			Source	
SOM	%	1	2.5	6	1	2.5	6		
Arsenic	mg/kg	32	32	32	640	640	640	SGVs	
Beryllium	mg/kg	1.7	1.7	1.7	12	12	12	LQM S4ULs	
Boron (water soluble)	mg/kg	290	290	290	240000	240000	240000	LQM S4ULs	
Cadmium	mg/kg	10	10	10	230	230	230	SGVs	
Chromium (Total)	mg/kg	910	910	910	8600	8600	8600	LQM S4ULs	
Chromium (VI)	mg/kg	21	21	21	49	49	49	DEFRA C4SLs	
Copper	mg/kg	2400	2400	2400	68000	68000	68000	LQM S4ULs	
Lead	mg/kg	200	200	200	2300	2300	2300	DEFRA C4SLs	
Organic Mercury	mg/kg	1.2	1.2	1.2	26	26	26	LQM S4ULs	
Nickel	mg/kg	180	180	180	980	980	980	LQM S4ULs	
Selenium	mg/kg	350	350	350	13000	13000	13000	SGVs	
Vanadium	mg/kg	410	410	410	9000	9000	9000	LQM S4ULs	
Zinc	mg/kg	3700	3700	3700	730000	730000	730000	LQM S4ULs	
Aliphatic EC 5 - 6	mg/kg	42	78	160	3200 (304) ^{sol}	5900 (558) ^{sol}	12000 (1150) ^{sol}	LQM S4ULs	
Aliphatic EC 6 - 8	mg/kg	100	230	530	7800 (144) ^{sol}	17000 (322) ^{sol}	40000 (736) ^{sol}	LQM S4ULs	
Aliphatic EC 8 - 10	mg/kg	27	65	150	2000 (78) ^{sol}	4800 (190) ^{sol}	11000 (451) ^{vop}	LQM S4ULs	
Aliphatic EC 10 - 12	mg/kg	130 (48) ^{vop}	330 (118) ^{vop}	760 (283) ^{vop}	9700 (48) ^{sol}	23000 (118) ^{vop}	47000 (283) ^{vop}	LQM S4ULs	
Aliphatic EC 12 - 16	mg/kg	1100 (24) ^{sol}	2400 (59) ^{sol}	4300 (142) ^{sol}	59000 (24) ^{sol}	82000 (59) ^{sol}	90000 (142) ^{sol}	LQM S4ULs	
Aliphatic EC 16 - 35	mg/kg	65000 (8.48) ^{f, sol}	92000 (21) ^{f, sol}	110000 ^f	1600000 ^f	1700000 ^f	1800000 ^f	LQM S4ULs	
Aliphatic EC 35 - 44	mg/kg	65000 (8.48) ^{f, sol}	92000 (21) ^{f, sol}	110000 ^f	1600000 ^f	1700000 ^f	1800000 ^f	LQM S4ULs	
Aromatic EC 5 - 7	mg/kg	70	140	300	26000 (1220) ^{sol}	46000 (2260) ^{sol}	86000 (4710) ^{sol}	LQM S4ULs	
Aromatic EC 7 - 8	mg/kg	130	290	660	56000 (869) ^{vop}	110000 (1920)	180000 (4360)	LQM S4ULs	
Aromatic EC 8 - 10	mg/kg	34	83	190	3500 (613) ^{vop}	8100 (1500) ^{vop}	17000 (3580)	LQM S4ULs	
Aromatic EC 10 - 12	mg/kg	74	180	380	16000 (364) ^{sol}	28000 (899) ^{sol}	34000 (2150) ^{sol}	LQM S4ULs	
Aromatic EC 12 - 16	mg/kg	140	330	660	36000 (169) ^{sol}	37000	38000	LQM S4ULs	
Aromatic EC 16 - 21	mg/kg	260 ^f	540 ^f	930 ^f	28000 ^f	28000 ^f	28000 ^f	LQM S4ULs	
Aromatic EC 21 - 35	mg/kg	1100 ^f	1500 ^f	1700 ^f	28000 ^f	28000 ^f	28000 ^f	LQM S4ULs	
Aromatic EC 35 - 44	mg/kg	1100 ^f	1500 ^f	1700 ^f	28000 ^f	28000 ^f	28000 ^f	LQM S4ULs	
Benzene	mg/kg	0.33	0.33	0.33	95	95	95	SGVs	
Toluene	mg/kg	610	610	610	4400	4400	4400	SGVs	
Ethyl Benzene	mg/kg	350	350	350	2800	2800	2800	SGVs	
Xylene - o	mg/kg	250	250	250	2600	2600	2600	SGVs	
Xylene - m	mg/kg	240	240	240	3500	3500	3500	SGVs	
Xylene - p	mg/kg	230	230	230	3200	3200	3200	SGVs	
MTBE (methyl tert-butyl)	mg/kg	49	84	160	7900	13000	24000	CL:AIRE 2010	
Acenaphthene	mg/kg	210	510	1100	84000 (57) ^{sol}	97000 (141) ^{sol}	100000	LQM SAULs	
Acenaphthylene	mg/kg	170	420	920	83000 (86.1) ^{sol}	97000 (212) ^{sol}	100000	LQM S4ULs	
Anthracene	mg/kg	2400	5400	11000	520000	540000	540000	LQM S4ULs	
Benz(a)anthracene	mg/kg	7.2	11	13	170	170	180	LQM S4ULs	
Benzo(a)pyrene	mg/kg	2.2	2.7	5*	35	35	77*	DEFRA C4SL*/LQM	
Benzo(b)fluoranthene	mg/kg	2.6	3.3	3.7	44	44	45	LQM S4ULs	
Benzo(ghi)perylene	mg/kg	320	340	350	3900	4000	4000	LQM S4ULs	
Benzo(k)fluoranthene	mg/kg	77	93	100	1200	1200	1200	LQM S4ULs	
Chrysene	mg/kg	15	22	27	350	350	350	LQM S4ULs	
Dibenz(ah)anthracene	mg/kg	0.24	0.28	0.3	3.5	3.6	3.6	LQM S4ULs	
Fluoranthene	mg/kg	280	560	890	23000	23000	23000	LQM S4ULs	
Fluorene	mg/kg	170	400	860	63000 (30.9) ^{sol}	68000	71000	LQM S4ULs	
Indeno(123-cd)pyrene	mg/kg	27	36	41	500	510	510	LQM S4ULs	
Naphthalene	mg/kg	2.3 ^f	5.6 ^f	13 ^f	190 ^f (76.4) ^{sol}	460 ^f (183) ^{sol}	1100 ^f (432) ^{sol}	LQM S4ULs	
Phenanthrene	mg/kg	95	220	440	22000	22000	23000	LQM S4ULs	
Pyrene	mg/kg	620	1200	2000	54000	54000	54000	LQM S4ULs	



APPENDIX 15 - JIWG Receptor Decision Tool

Decision Support Tool for Receptor Risk Ranking

Stage 1		Score
Hazard Identification		
Select ACM type (run model for each type to generate 'Worst Case' output)	Loose fibrous asbestos debris	3
Extent of degradation of ACMs	Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)	4
Friability and degree of bonding by matrix (ACM matrix, not ground materials)	Friable ACM or ACM with fibres not firmly linked in a matrix	2
Distribution of Visible Asbestos Across Affected Area	Occasional/random occurrences of visible contamination by ACMs	1
Asbestos fibre type	Mainly amphibole and chrysotile mixtures, including trace crocidolite	2
Sub-total		12
Hazard ranking		Medium

No warranty, expressed or implied, or reliance, is provided in relation to the use of this tool.

It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.

Stage 2		Score
Emission Factors		
Amount of asbestos fibre in selected ACM/fibre type as % of host material	Low quantities - >0.01 to <0.05 %wt/wt	2
Respirable fibre index for ACM - RIVM report 711701034 (2003)	Low	2
Activity type and effect on deterioration of ACMs	Moderate disturbance, slight deterioration expected	3
Best description of primary host material matrix	Coarse to Fine Gravel	3
Sub-total		10
Exposure ranking		Medium

Stage 3		Score	
Pathway and Receptor Sensitivity			
Receptor category	Construction	No score required	
Age of Receptor	Infant (under 5)	4	
Duration of exposure/site occupancy	> 1hr <10 hr daily exposure (e.g. part-time to full time occupational exposure or extended daily recreational exposure)	3	
Receptor ranking		7	High
Combined hazard, exposure and receptor ranking			Medium
Pathway: Distance of Receptor from Source	In or within 10m of area of disturbance	4	
Pathway: Depth to impacted material	Material buried at shallow depth, potential to be disturbed by excavation	C	
Pathway ranking		4C	Low
Overall ranking			Low

Project Reference	GRO-21252
Site Name	AFAN WAY, PORT TALBOT
Client	
Run by	CAMERON WALLACE
Date	02-Dec-21
Reviewed by	
Characterisation of scenario being evaluated	
Interpretation of scenario ranking by DST	



Joint Industry **Working Group**

Asbestos in Soil and Construction & Demolition Materials

Project Reference

GRO-21252

Site Name

AFAN WAY, PORT TALBOT

Client

Run by

CAMERON WALLACE

Date

02-Dec-21

Scenario details

Decision Support Tool for CAR2012 Work Categories

Stage 1

Hazard Factors

Score

Select ACM type (run model for each type to generate 'Worst Case' output)

Loose fibrous asbestos debris

3

Extent of degradation of ACMs at outset of work

Disaggregated (dominated by loose fibrous material; extreme degradation in ACM and/or free asbestos fibres/fibre bundles)

4

Friability and degree of bonding by matrix (ACM matrix, not ground materials)

Friable ACM or ACM with fibres not linked in any matrix (free dispersed fibres/fibre bundles)

4

Distribution of Visible Asbestos Across Affected Area

Occasional/random occurrences of visible contamination by ACMs

1

Amount of asbestos fibre in selected ACM/fibre type as % of host material

Low quantities - >0.01 to <0.05 %wt/wt

2

Sub-total

14

Note: the asbestos licensing regime is unaffected by the type of asbestos fibre present in ACMs

Hazard ranking

Medium

No warranty, expressed or implied, or reliance, is provided in relation to the use of this tool.

It is contingent on users to satisfy themselves that the output from the tool is relevant and appropriate to the assessment being made.

Stage 2

Exposure Factors

Score

Anticipated airborne fibre concentration - Control Limit or SALI?

<0.001 fibres/ml

0

Anticipated duration of exposure to asbestos

> 2 hours in a 7 day period and Up to 10 hours in a day (e.g. full time occupational exposure)

4

Activity type and effect on deterioration of ACMs during work

Low intensity, no or minimal deterioration expected

0

Best description of primary host material matrix (soil/made ground)

Coarse to Fine Gravel

3

Respirable fibre index for ACM - RIVM report 711701034 (2003)

Medium

3

Sub-total

10

Exposure ranking

Low

Combined hazard and exposure ranking

24

Medium

Stage 3

Risk Assessment Outputs

Probable Licensing Status	Non-Licensed Work
RPE*	EN149 type FFP3 disposable
Dust Suppression**	Manual/localised dust suppression
Hygiene/Decontamination***	Localised and basic personal decontamination facilities

*Where RPE has to be worn continuously for long periods (e.g. more than 1-hour), then powered RPE may be necessary.

**Reduction in control measures possible if natural mitigation factors are present (e.g. raining, wet ground)

***Guide only; suitability of selected personal hygiene measures may be reviewed on a site/contamination-specific basis



APPENDIX 16 - Waste Classification Report

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



V0992-COF6B-8W27V

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in **pale yellow**.

Job name

21-17040_HWOL_Results[2]

Description/Comments

Project

GRO-21252

Site

Port Talbot

Classified by

Name:
James Doyle
Date:
10 Dec 2021 10:09 GMT
Telephone:
0800 1613730

Company:
Groundtech Consulting Limited
PO Box 499 Salford, Manchester M28 8EE

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
Hazardous Waste Classification

Date
50% complete

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	TP01---2.50		Non Hazardous		2
2	TP02---0.30		Hazardous	HP 7	7
3	TP03---1.00		Hazardous	HP 7, HP 14	10
4	TP05---0.50		Hazardous	HP 7, HP 14	13
5	TP05---3.00		Non Hazardous		16
6	TP06---1.60		Hazardous	HP 7, HP 14	22
7	TP07---1.20		Non Hazardous		25
8	TP07---0.25		Hazardous	HP 7	30
9	TP08---1.20		Non Hazardous		33
10	TP08---1.60		Non Hazardous		39
11	TP09---0.50		Non Hazardous		41
12	TP10---0.60		Hazardous	HP 7	43
13	WS05---0.10		Hazardous	HP 7, HP 14	49
14	WS06---0.90		Hazardous	HP 7	52
15	TP15---1.00		Hazardous	HP 7	54

Related documents

#	Name	Description
1	21-17040_HWOL_Results.hwol[3]	.hwol[3] file used to create the Job
2	Example waste stream template for contaminated soils	waste stream template used to create this Job

Report

Created by: James Doyle

Created date: 10 Dec 2021 10:09 GMT

Appendices	Page
Appendix A: Classifier defined and non CLP determinands	56
Appendix B: Rationale for selection of metal species	60
Appendix C: Version	60

Classification of sample: TP01---2.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP01---2.50	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
19% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 19% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	TPH (C6 to C40) petroleum group				<20 mg/kg		<20 mg/kg	<0.002 %			<LOD
			TPH								
2	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	603-181-00-X	216-653-1	1634-04-4								
3	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
4	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
5	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
6	xylene				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %			<LOD
	601-022-00-9	202-422-2 [1]	95-47-6 [1]								
		203-396-5 [2]	106-42-3 [2]								
		203-576-3 [3]	108-38-3 [3]								
		215-535-7 [4]	1330-20-7 [4]								
7	naphthalene				<0.0001 mg/kg		<0.0001 mg/kg	<0.00000001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
8	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
9	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
10	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-695-5	86-73-7								
11	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-581-5	85-01-8								
12	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-371-1	120-12-7								
13	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-912-4	206-44-0								
14	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		204-927-3	129-00-0								
15	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
16	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
17	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-034-00-4	205-911-9	205-99-2								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
18	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-036-00-5	205-916-6	207-08-9								
19	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
20	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-893-2	193-39-5								
21	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
22	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-883-8	191-24-2								
23	phenol				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
24	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
25	tetrachloroethylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-028-00-4	204-825-9	127-18-4								
26	carbon tetrachloride; tetrachloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
27	trichloroethylene; trichloroethene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-027-00-9	201-167-4	79-01-6								
28	vinyl chloride; chloroethylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-023-00-7	200-831-0	75-01-4								
29	hexachlorobenzene				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
	602-065-00-6	204-273-9	118-74-1								
30	aniline				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	612-008-00-7	200-539-3	62-53-3								
31	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-008-00-0	202-433-2 [1]	95-57-8 [1]								
		203-402-6 [2]	106-48-9 [2]								
		203-582-6 [3]	108-43-0 [3]								
		246-691-4 [4]	25167-80-0 [4]								
32	bis(2-chloroethyl) ether				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
	603-029-00-2	203-870-1	111-44-4								
33	hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		200-666-4	67-72-1								
34	nitrobenzene				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
	609-003-00-7	202-716-0	98-95-3								
35	3,5,5-trimethylcyclohex-2-enone; isophorone				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
	606-012-00-8	201-126-0	78-59-1								
36	2-nitrophenol				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
		201-857-5	88-75-5								
37	3,4-xyleneol; [1] 2,5-xyleneol; [2] 2,4-xyleneol; [3] 2,3-xyleneol; [4] 2,6-xyleneol; [5] xyleneol; [6] 2,4(or 2,5)-xyleneol [7]				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
	604-006-00-X	202-439-5 [1]	95-65-8 [1] 95-87-4								
		202-461-5 [2]	[2] 105-67-9 [3]								
		203-321-6 [3]	526-75-0 [4]								
		208-395-3 [4]	576-26-1 [5]								
		209-400-1 [5]	1300-71-6 [6]								
		215-089-3 [6]	71975-58-1 [7]								
		276-245-4 [7]									
38	bis(2-chloroethoxy)methane				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
		203-920-2	111-91-1								
39	2,4-dichlorophenol				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
	604-011-00-7	204-429-6	120-83-2								
40	4-chloroaniline				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	612-137-00-9	203-401-0	106-47-8								
41	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-014-00-3	200-431-6	59-50-7								
42	2,4,6-trichlorophenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	604-018-00-5	201-795-9	88-06-2								

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
43	2,4,5-trichlorophenol				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	604-017-00-X	202-467-8	95-95-4									
44	2-methyl naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		202-078-3	91-57-6									
45	2-chloronaphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		202-079-9	91-58-7									
46	dimethyl phthalate				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
		205-011-6	131-11-3									
47	2,6-dinitrotoluene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	609-049-00-8	210-106-0	606-20-2									
48	2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	609-007-00-9	204-450-0 [1]	121-14-2 [1]									
		246-836-1 [2]	25321-14-6 [2]									
49	dibenzofuran				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		205-071-3	132-64-9									
50	4-chlorophenylphenylether				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
		230-281-7	7005-72-3									
51	diethyl phthalate				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		201-550-6	84-66-2									
52	o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	612-012-00-9	201-855-4 [1]	88-74-4 [1] 99-09-2									
		202-729-1 [2]	[2] 100-01-6 [3]									
		202-810-1 [3]										
53	azobenzene				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
	611-001-00-6	203-102-5	103-33-3									
54	4-bromophenylphenylether				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		202-952-4	101-55-3									
55	carbazole				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
		201-696-0	86-74-8									
56	dibutyl phthalate; DBP				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	607-318-00-4	201-557-4	84-74-2									
57	anthraquinone				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
	606-151-00-4	201-549-0	84-65-1									
58	BBP; benzyl butyl phthalate				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
	607-430-00-3	201-622-7	85-68-7									
59	1,1,1-trichloroethane; methyl chloroform				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-013-00-2	200-756-3	71-55-6									
60	1,1,2,2-tetrachloroethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-015-00-3	201-197-8	79-34-5									
61	1,1,2-trichloroethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5									
62	1,1-dichloroethylene; vinylidene chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-025-00-8	200-864-0	75-35-4									
63	1,1-dichloropropene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-031-00-0	209-253-3	563-58-6									
64	1,2,3-trichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		201-757-1	87-61-6									
65	1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-043-00-3	202-436-9	95-63-6									
66	1,2-dibromoethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-010-00-6	203-444-5	106-93-4									
67	1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-034-00-7	202-425-9	95-50-1									
68	1,2-dichloropropane; propylene dichloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-020-00-0	201-152-2	78-87-5									
69	1,3-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-067-00-7	208-792-1	541-73-1									
70	1,3-dichloropropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		205-531-3	142-28-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
71	1,4-dichlorobenzene; p-dichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-035-00-2	203-400-5	106-46-7							
72	2,2-dichloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		209-832-0	594-20-7							
73	bromodichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-856-7	75-27-4							
74	bromomethane; methylbromide				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-002-00-2	200-813-2	74-83-9							
75	bromobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1							
76	n-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		203-209-7	104-51-8							
77	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-030-00-5	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]							
78	chlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7							
79	chloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-009-00-0	200-830-5	75-00-3							
80	chloroform; trichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-006-00-4	200-663-8	67-66-3							
81	chloromethane; methyl chloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-001-00-7	200-817-4	74-87-3							
82	dibromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		204-704-0	124-48-1							
83	1,2-dibromo-3-chloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-021-00-6	202-479-3	96-12-8							
84	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
85	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		201-765-5	87-68-3							
86	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-796-7	99-87-6							
87	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-227-0	135-98-8							
88	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
89	trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		431-460-4	10061-02-6							
90	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
91	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
92	1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-087-00-6	204-428-0	120-82-1							
93	1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		211-135-1	630-20-6							
94	trichlorofluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-892-3	75-69-4							
95	mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-025-00-5	203-604-4	108-67-8							
96	m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]							
97	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2]	95-49-8 [1] 108-41-8 [2]							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
		203-397-0 [3] 246-698-2 [4]	106-43-4 [3] 25168-05-2 [4]							
98	1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3] 602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
99	cumene; [1] propylbenzene [2] 601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
Total:								0.00276 %		

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)
<LOD	Below limit of detection
ND	Not detected

Classification of sample: TP02---0.30

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
TP02---0.30	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
10%	Entry:
(wet weight correction)	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 0.147%)

Determinands

Moisture content: 10% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				47	mg/kg	1.32	55.85	mg/kg	0.00558 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				2.8	mg/kg	3.22	8.114	mg/kg	0.000811 %	✓	
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				46	mg/kg	1.462	60.508	mg/kg	0.00605 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	2.27	<9.08	mg/kg	<0.000908 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				910	mg/kg	1.126	922.103	mg/kg	0.0922 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	730	mg/kg	1.56	1024.799	mg/kg	0.0657 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				57	mg/kg	2.976	152.682	mg/kg	0.0153 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
11	zinc { zinc chromate }				590	mg/kg	2.774	1473.072	mg/kg	0.147 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
12	TPH (C6 to C40) petroleum group				330	mg/kg		297	mg/kg	0.0297 %	✓	
			TPH									
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, }				58	mg/kg	1.884	98.345	mg/kg	0.00983 %	✓	

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
	ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }									
	006-007-00-5									
14	pH		PH		9 pH		9 pH	9pH		
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				1.3 mg/kg		1.17 mg/kg	0.000117 %	✓	
		205-917-1	208-96-8							
17	acenaphthene				2.3 mg/kg		2.07 mg/kg	0.000207 %	✓	
		201-469-6	83-32-9							
18	fluorene				2.9 mg/kg		2.61 mg/kg	0.000261 %	✓	
		201-695-5	86-73-7							
19	phenanthrene				19 mg/kg		17.1 mg/kg	0.00171 %	✓	
		201-581-5	85-01-8							
20	anthracene				6.1 mg/kg		5.49 mg/kg	0.000549 %	✓	
		204-371-1	120-12-7							
21	fluoranthene				46 mg/kg		41.4 mg/kg	0.00414 %	✓	
		205-912-4	206-44-0							
22	pyrene				36 mg/kg		32.4 mg/kg	0.00324 %	✓	
		204-927-3	129-00-0							
23	benzo[a]anthracene				35 mg/kg		31.5 mg/kg	0.00315 %	✓	
	601-033-00-9	200-280-6	56-55-3							
24	chrysene				29 mg/kg		26.1 mg/kg	0.00261 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	benzo[b]fluoranthene				21 mg/kg		18.9 mg/kg	0.00189 %	✓	
	601-034-00-4	205-911-9	205-99-2							
26	benzo[k]fluoranthene				16 mg/kg		14.4 mg/kg	0.00144 %	✓	
	601-036-00-5	205-916-6	207-08-9							
27	benzo[a]pyrene; benzo[def]chrysene				16 mg/kg		14.4 mg/kg	0.00144 %	✓	
	601-032-00-3	200-028-5	50-32-8							
28	indeno[123-cd]pyrene				9.5 mg/kg		8.55 mg/kg	0.000855 %	✓	
		205-893-2	193-39-5							
29	dibenz[a,h]anthracene				3.9 mg/kg		3.51 mg/kg	0.000351 %	✓	
	601-041-00-2	200-181-8	53-70-3							
30	benzo[ghi]perylene				9.6 mg/kg		8.64 mg/kg	0.000864 %	✓	
		205-883-8	191-24-2							
31	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
32	asbestos				30 mg/kg		27 mg/kg	0.0027 %	✓	
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5							
Total:								0.399 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0297%)

Classification of sample: TP03---1.00

Hazardous Waste
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
TP03---1.00	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
15% (wet weight correction)	

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 0.542%)

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

lead chromate: (Note 1 conc.: 0.119%)

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinands:

lead chromate: (Note 1 conc.: 0.119%)

zinc chromate: (compound conc.: 0.542%)

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
1	 arsenic { arsenic trioxide }	033-003-00-0	215-481-4	1327-53-3	29 mg/kg	1.32	32.546 mg/kg	0.00325 %	✓		
2	 boron { diboron trioxide; boric oxide }	005-008-00-8	215-125-8	1303-86-2	0.8 mg/kg	3.22	2.19 mg/kg	0.000219 %	✓		
3	 cadmium { cadmium oxide }	048-002-00-0	215-146-2	1306-19-0	5 mg/kg	1.142	4.855 mg/kg	0.000485 %	✓		
4	 chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				15 mg/kg	1.462	18.635 mg/kg	0.00186 %	✓		
		215-160-9	1308-38-9								
5	 chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }	024-017-00-8			<4 mg/kg	2.27	<9.08 mg/kg	<0.000908 %		<LOD	
6	 copper { dicopper oxide; copper (I) oxide }	029-002-00-X	215-270-7	1317-39-1	360 mg/kg	1.126	344.522 mg/kg	0.0345 %	✓		
7	 lead { lead chromate }	082-004-00-2	231-846-0	7758-97-6	1400 mg/kg	1.56	1856.18 mg/kg	0.119 %	✓		

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
8	mercury { mercury dichloride }	080-010-00-X	231-299-8	7487-94-7		<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %			<LOD
9	nickel { nickel chromate }	028-035-00-7	238-766-5	14721-18-7		41 mg/kg	2.976	103.723 mg/kg	0.0104 %		✓	
10	selenium { nickel selenate }	028-031-00-5	239-125-2	15060-62-5		<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %			<LOD
11	zinc { zinc chromate }	024-007-00-3	236-878-9	13530-65-9		2300 mg/kg	2.774	5423.456 mg/kg	0.542 %		✓	
12	TPH (C6 to C40) petroleum group			TPH		44 mg/kg		37.4 mg/kg	0.00374 %		✓	
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }	006-007-00-5				3.5 mg/kg	1.884	5.605 mg/kg	0.00056 %		✓	
14	pH			PH		8 pH		8 pH	8pH			
15	naphthalene	601-052-00-2	202-049-5	91-20-3		0.61 mg/kg		0.519 mg/kg	0.0000519 %		✓	
16	acenaphthylene		205-917-1	208-96-8		0.45 mg/kg		0.383 mg/kg	0.0000383 %		✓	
17	acenaphthene		201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
18	fluorene		201-695-5	86-73-7		0.57 mg/kg		0.484 mg/kg	0.0000484 %		✓	
19	phenanthrene		201-581-5	85-01-8		4.7 mg/kg		3.995 mg/kg	0.0004 %		✓	
20	anthracene		204-371-1	120-12-7		0.87 mg/kg		0.74 mg/kg	0.000074 %		✓	
21	fluoranthene		205-912-4	206-44-0		4.4 mg/kg		3.74 mg/kg	0.000374 %		✓	
22	pyrene		204-927-3	129-00-0		3.6 mg/kg		3.06 mg/kg	0.000306 %		✓	
23	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3		3.1 mg/kg		2.635 mg/kg	0.000263 %		✓	
24	chrysene	601-048-00-0	205-923-4	218-01-9		2.5 mg/kg		2.125 mg/kg	0.000213 %		✓	
25	benzo[b]fluoranthene	601-034-00-4	205-911-9	205-99-2		3.2 mg/kg		2.72 mg/kg	0.000272 %		✓	
26	benzo[k]fluoranthene	601-036-00-5	205-916-6	207-08-9		1.1 mg/kg		0.935 mg/kg	0.0000935 %		✓	
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8		2.6 mg/kg		2.21 mg/kg	0.000221 %		✓	
28	indeno[123-cd]pyrene		205-893-2	193-39-5		2.5 mg/kg		2.125 mg/kg	0.000213 %		✓	
29	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3		0.6 mg/kg		0.51 mg/kg	0.000051 %		✓	
30	benzo[ghi]perylene		205-883-8	191-24-2		2.7 mg/kg		2.295 mg/kg	0.00023 %		✓	
31	monohydric phenols			P1186		<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
Total:										0.72 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00374%)

Classification of sample: TP05---0.50

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:	
TP05---0.50	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
19% (wet weight correction)		

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 0.404%)

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinand:

zinc chromate: (compound conc.: 0.404%)

Determinands

Moisture content: 19% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number							
1		arsenic { arsenic trioxide }				45 mg/kg	1.32	48.126 mg/kg	0.00481 %	✓	
		033-003-00-0	215-481-4	1327-53-3							
2		boron { diboron trioxide; boric oxide }				1.2 mg/kg	3.22	3.13 mg/kg	0.000313 %	✓	
		005-008-00-8	215-125-8	1303-86-2							
3		cadmium { cadmium oxide }				2.1 mg/kg	1.142	1.943 mg/kg	0.000194 %	✓	
		048-002-00-0	215-146-2	1306-19-0							
4		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				20 mg/kg	1.462	23.677 mg/kg	0.00237 %	✓	
			215-160-9	1308-38-9							
5		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	2.27	<9.08 mg/kg	<0.000908 %		<LOD
		024-017-00-8									
6		copper { dicopper oxide; copper (I) oxide }				180 mg/kg	1.126	164.155 mg/kg	0.0164 %	✓	
		029-002-00-X	215-270-7	1317-39-1							
7		lead { lead chromate }			1	300 mg/kg	1.56	379.035 mg/kg	0.0243 %	✓	
		082-004-00-2	231-846-0	7758-97-6							
8		mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7							
9		nickel { nickel chromate }				31 mg/kg	2.976	74.734 mg/kg	0.00747 %	✓	
		028-035-00-7	238-766-5	14721-18-7							
10		selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
		028-031-00-5	239-125-2	15060-62-5							

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
11	zinc { zinc chromate }				1800	mg/kg	2.774	4044.706	mg/kg	0.404 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
12	TPH (C6 to C40) petroleum group				25	mg/kg		20.25	mg/kg	0.00202 %	✓	
			TPH									
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5											
14	pH				8.3	pH		8.3	pH	8.3 pH		
			PH									
15	naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
17	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9									
18	fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7									
19	phenanthrene				1.5	mg/kg		1.215	mg/kg	0.000122 %	✓	
		201-581-5	85-01-8									
20	anthracene				0.37	mg/kg		0.3	mg/kg	0.00003 %	✓	
		204-371-1	120-12-7									
21	fluoranthene				3	mg/kg		2.43	mg/kg	0.000243 %	✓	
		205-912-4	206-44-0									
22	pyrene				2.7	mg/kg		2.187	mg/kg	0.000219 %	✓	
		204-927-3	129-00-0									
23	benzo[a]anthracene				2.1	mg/kg		1.701	mg/kg	0.00017 %	✓	
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				1.8	mg/kg		1.458	mg/kg	0.000146 %	✓	
	601-048-00-0	205-923-4	218-01-9									
25	benzo[b]fluoranthene				1.9	mg/kg		1.539	mg/kg	0.000154 %	✓	
	601-034-00-4	205-911-9	205-99-2									
26	benzo[k]fluoranthene				1.2	mg/kg		0.972	mg/kg	0.0000972 %	✓	
	601-036-00-5	205-916-6	207-08-9									
27	benzo[a]pyrene; benzo[def]chrysene				1.5	mg/kg		1.215	mg/kg	0.000122 %	✓	
	601-032-00-3	200-028-5	50-32-8									
28	indeno[123-cd]pyrene				1.3	mg/kg		1.053	mg/kg	0.000105 %	✓	
		205-893-2	193-39-5									
29	dibenz[a,h]anthracene				0.42	mg/kg		0.34	mg/kg	0.000034 %	✓	
	601-041-00-2	200-181-8	53-70-3									
30	benzo[ghi]perylene				1.3	mg/kg		1.053	mg/kg	0.000105 %	✓	
		205-883-8	191-24-2									
31	monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			P1186									
Total:										0.465 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00202%)

Classification of sample: TP05---3.00

 **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP05---3.00	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
21% (wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 21% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				9.9	mg/kg	1.32	10.326	mg/kg	0.00103 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				1.7	mg/kg	3.22	4.324	mg/kg	0.000432 %	✓	
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				19	mg/kg	1.462	21.938	mg/kg	0.00219 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	2.27	<9.08	mg/kg	<0.000908 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				16	mg/kg	1.126	14.231	mg/kg	0.00142 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	15	mg/kg	1.56	18.484	mg/kg	0.00119 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				30	mg/kg	2.976	70.537	mg/kg	0.00705 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
11	zinc { zinc chromate }				89	mg/kg	2.774	195.05	mg/kg	0.0195 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
12	TPH (C6 to C40) petroleum group		TPH		910	mg/kg		718.9	mg/kg	0.0719 %	✓	
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4									
14	benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2									
15	toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3									
16	ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
17	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %			<LOD
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
19	pH		PH		6.4 pH		6.4 pH	6.4 pH			
20	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.0001 mg/kg		<0.0001 mg/kg	<0.00000001 %			<LOD
21	acenaphthylene 205-917-1		208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
22	acenaphthene 201-469-6		83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
23	fluorene 201-695-5		86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
24	phenanthrene 201-581-5		85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
25	anthracene 204-371-1		120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
26	fluoranthene 205-912-4		206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
27	pyrene 204-927-3		129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
29	chrysene 601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
30	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
31	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
32	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
33	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
34	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
35	benzo[ghi]perylene 205-883-8		191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
36	phenol 604-001-00-2	203-632-7	108-95-2		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
37	1,1-dichloroethane and 1,2-dichloroethane (combined) 203-458-1, 200-863-5		107-06-2, 75-34-3		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
38	tetrachloroethylene 602-028-00-4	204-825-9	127-18-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
39	carbon tetrachloride; tetrachloromethane 602-008-00-5	200-262-8	56-23-5		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
40	trichloroethylene; trichloroethene 602-027-00-9	201-167-4	79-01-6		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
41	vinyl chloride; chloroethylene 602-023-00-7	200-831-0	75-01-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
42	hexachlorobenzene 602-065-00-6	204-273-9	118-74-1		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
43	aniline 612-008-00-7	200-539-3	62-53-3		<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
	CLP index number	EC Number	CAS Number									
44	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] 604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
45	bis(2-chloroethyl) ether 603-029-00-2	203-870-1	111-44-4		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
46	hexachloroethane 200-666-4	67-72-1			<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
47	nitrobenzene 609-003-00-7	202-716-0	98-95-3		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
48	3,5,5-trimethylcyclohex-2-enone; isophorone 606-012-00-8	201-126-0	78-59-1		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
49	2-nitrophenol 201-857-5	88-75-5			<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
50	3,4-xylene; [1] 2,5-xylene; [2] 2,4-xylene; [3] 2,3-xylene; [4] 2,6-xylene; [5] xylene; [6] 2,4(or 2,5)-xylene [7] 604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
51	bis(2-chloroethoxy)methane 203-920-2	111-91-1			<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
52	2,4-dichlorophenol 604-011-00-7	204-429-6	120-83-2		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
53	4-chloroaniline 612-137-00-9	203-401-0	106-47-8		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
54	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol 604-014-00-3	200-431-6	59-50-7		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
55	2,4,6-trichlorophenol 604-018-00-5	201-795-9	88-06-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
56	2,4,5-trichlorophenol 604-017-00-X	202-467-8	95-95-4		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
57	2-methyl naphthalene 202-078-3	91-57-6			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
58	2-chloronaphthalene 202-079-9	91-58-7			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
59	dimethyl phthalate 205-011-6	131-11-3			<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
60	2,6-dinitrotoluene 609-049-00-8	210-106-0	606-20-2		<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
61	2,4-dinitrotoluene; [1] dinitrotoluene [2] 609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
62	dibenzofuran 205-071-3	132-64-9			<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
63	4-chlorophenylphenylether 230-281-7	7005-72-3			<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
64	diethyl phthalate 201-550-6	84-66-2			<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
65	o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3] 612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
66	azobenzene 611-001-00-6	203-102-5	103-33-3		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
67	4-bromophenylphenylether 202-952-4	101-55-3			<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
68	carbazole	201-696-0	86-74-8		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
69	dibutyl phthalate; DBP	607-318-00-4	201-557-4		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
70	anthraquinone	606-151-00-4	201-549-0		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
71	BBP; benzyl butyl phthalate	607-430-00-3	201-622-7		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
72	1,1,1-trichloroethane; methyl chloroform	602-013-00-2	200-756-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
73	1,1,2,2-tetrachloroethane	602-015-00-3	201-197-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
74	1,1,2-trichloroethane	602-014-00-8	201-166-9		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
75	1,1-dichloroethylene; vinylidene chloride	602-025-00-8	200-864-0		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
76	1,1-dichloropropene	602-031-00-0	209-253-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
77	1,2,3-trichlorobenzene	201-757-1	87-61-6		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
78	1,2,4-trimethylbenzene	601-043-00-3	202-436-9		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
79	1,2-dibromoethane	602-010-00-6	203-444-5		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
80	1,2-dichlorobenzene; o-dichlorobenzene	602-034-00-7	202-425-9		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
81	1,2-dichloropropane; propylene dichloride	602-020-00-0	201-152-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
82	1,3-dichlorobenzene	602-067-00-7	208-792-1		1 mg/kg		0.79 mg/kg	0.000079 %	✓		
83	1,3-dichloropropane	205-531-3	142-28-9		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
84	1,4-dichlorobenzene; p-dichlorobenzene	602-035-00-2	203-400-5		0.8 mg/kg		0.632 mg/kg	0.0000632 %	✓		
85	2,2-dichloropropane	209-832-0	594-20-7		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
86	bromodichloromethane	200-856-7	75-27-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
87	bromomethane; methylbromide	602-002-00-2	200-813-2		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
88	bromobenzene	602-060-00-9	203-623-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
89	n-butylbenzene	203-209-7	104-51-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
90	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	602-030-00-5	208-826-5 [1] 233-195-8 [2]		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
91	chlorobenzene	602-033-00-1	203-628-5		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
92	chloroethane	602-009-00-0	200-830-5		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
93	chloroform; trichloromethane	602-006-00-4	200-663-8		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
94	chloromethane; methyl chloride	602-001-00-7	200-817-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
95	dibromochloromethane	204-704-0	124-48-1		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
96	1,2-dibromo-3-chloropropane	602-021-00-6	202-479-3		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
97	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-003-00-8	200-824-2	74-95-3								
98	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		201-765-5	87-68-3								
99	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		202-796-7	99-87-6								
100	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		205-227-0	135-98-8								
101	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-026-00-0	202-851-5	100-42-5								
102	trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		431-460-4	10061-02-6								
103	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		202-632-4	98-06-6								
104	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-007-00-X	200-854-6	75-25-2								
105	1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-087-00-6	204-428-0	120-82-1								
106	1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		211-135-1	630-20-6								
107	trichlorofluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
		200-892-3	75-69-4								
108	mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-025-00-5	203-604-4	108-67-8								
109	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
110	m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %			<LOD
	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]								
111	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]								
112	1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]								
113	cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]								
Total:									0.107 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0719%)

Classification of sample: TP06---1.60

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
TP06---1.60	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
22%	Entry:
(wet weight correction)	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 3.895%)

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinand:

zinc chromate: (compound conc.: 3.895%)

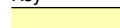
Determinands

Moisture content: 22% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				71	mg/kg	1.32	73.12	mg/kg	0.00731 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				0.5	mg/kg	3.22	1.256	mg/kg	0.000126 %	✓	
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				4.9	mg/kg	1.142	4.366	mg/kg	0.000437 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				27	mg/kg	1.462	30.78	mg/kg	0.00308 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	2.27	<9.08	mg/kg	<0.000908 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				180	mg/kg	1.126	158.075	mg/kg	0.0158 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	260	mg/kg	1.56	316.331	mg/kg	0.0203 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				35	mg/kg	2.976	81.252	mg/kg	0.00813 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
11	zinc { zinc chromate }				18000	mg/kg	2.774	38949.017	mg/kg	3.895 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
12	TPH (C6 to C40) petroleum group				94	mg/kg		73.32	mg/kg	0.00733 %	✓	
			TPH									
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5											
14	pH				7.9	pH		7.9	pH	7.9 pH		
			PH									
15	naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
17	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9									
18	fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7									
19	phenanthrene				0.57	mg/kg		0.445	mg/kg	0.0000445 %	✓	
		201-581-5	85-01-8									
20	anthracene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7									
21	fluoranthene				0.85	mg/kg		0.663	mg/kg	0.0000663 %	✓	
		205-912-4	206-44-0									
22	pyrene				0.76	mg/kg		0.593	mg/kg	0.0000593 %	✓	
		204-927-3	129-00-0									
23	benzo[a]anthracene				0.68	mg/kg		0.53	mg/kg	0.000053 %	✓	
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				0.77	mg/kg		0.601	mg/kg	0.0000601 %	✓	
	601-048-00-0	205-923-4	218-01-9									
25	benzo[b]fluoranthene				0.87	mg/kg		0.679	mg/kg	0.0000679 %	✓	
	601-034-00-4	205-911-9	205-99-2									
26	benzo[k]fluoranthene				0.38	mg/kg		0.296	mg/kg	0.0000296 %	✓	
	601-036-00-5	205-916-6	207-08-9									
27	benzo[a]pyrene; benzo[def]chrysene				0.59	mg/kg		0.46	mg/kg	0.000046 %	✓	
	601-032-00-3	200-028-5	50-32-8									
28	indeno[123-cd]pyrene				0.6	mg/kg		0.468	mg/kg	0.0000468 %	✓	
		205-893-2	193-39-5									
29	dibenz[a,h]anthracene				0.19	mg/kg		0.148	mg/kg	0.0000148 %	✓	
	601-041-00-2	200-181-8	53-70-3									
30	benzo[ghi]perylene				0.69	mg/kg		0.538	mg/kg	0.0000538 %	✓	
		205-883-8	191-24-2									
31	monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			P1186									
32	asbestos				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5									
Total:										3.96 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00733%)

Classification of sample: TP07---1.20

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP07---1.20	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
18% (wet weight correction)	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 18% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				23 mg/kg	1.32	24.901 mg/kg	0.00249 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	boron { diboron trioxide; boric oxide }				0.3 mg/kg	3.22	0.792 mg/kg	0.0000792 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				11 mg/kg	1.462	13.183 mg/kg	0.00132 %	✓	
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	2.27	<9.08 mg/kg	<0.000908 %		<LOD
	024-017-00-8									
6	copper { dicopper oxide; copper (I) oxide }				18 mg/kg	1.126	16.618 mg/kg	0.00166 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
7	lead { lead chromate }			1	190 mg/kg	1.56	243.019 mg/kg	0.0156 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
8	mercury { mercury dichloride }				0.4 mg/kg	1.353	0.444 mg/kg	0.0000444 %	✓	
	080-010-00-X	231-299-8	7487-94-7							
9	nickel { nickel chromate }				10 mg/kg	2.976	24.405 mg/kg	0.00244 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
10	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
11	zinc { zinc chromate }				350 mg/kg	2.774	796.18 mg/kg	0.0796 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
12	TPH (C6 to C40) petroleum group		TPH		<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-023-00-4	202-849-4	100-41-4							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
17	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %			<LOD
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
19	pH		PH		8 pH		8 pH	8pH			
20	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.0001 mg/kg		<0.0001 mg/kg	<0.00000001 %			<LOD
21	acenaphthylene 205-917-1		208-96-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
22	acenaphthene 201-469-6		83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
23	fluorene 201-695-5		86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
24	phenanthrene 201-581-5		85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
25	anthracene 204-371-1		120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
26	fluoranthene 205-912-4		206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
27	pyrene 204-927-3		129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
29	chrysene 601-048-00-0	205-923-4	218-01-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
30	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
31	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
32	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
33	indeno[123-cd]pyrene 205-893-2		193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
34	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
35	benzo[ghi]perylene 205-883-8		191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
36	phenol 604-001-00-2	203-632-7	108-95-2		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
37	1,1-dichloroethane and 1,2-dichloroethane (combined) 203-458-1, 200-863-5		107-06-2, 75-34-3		<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
38	tetrachloroethylene 602-028-00-4	204-825-9	127-18-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
39	carbon tetrachloride; tetrachloromethane 602-008-00-5	200-262-8	56-23-5		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
40	trichloroethylene; trichloroethene 602-027-00-9	201-167-4	79-01-6		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
41	vinyl chloride; chloroethylene 602-023-00-7	200-831-0	75-01-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
42	hexachlorobenzene 602-065-00-6	204-273-9	118-74-1		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
43	aniline 612-008-00-7	200-539-3	62-53-3		<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
	CLP index number	EC Number	CAS Number							
44	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] 604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
45	bis(2-chloroethyl) ether 603-029-00-2	203-870-1	111-44-4		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
46	hexachloroethane 200-666-4	67-72-1			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
47	nitrobenzene 609-003-00-7	202-716-0	98-95-3		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
48	3,5-trimethylcyclohex-2-enone; isophorone 606-012-00-8	201-126-0	78-59-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
49	2-nitrophenol 201-857-5	88-75-5			<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
50	3,4-xylene; [1] 2,5-xylene; [2] 2,4-xylene; [3] 2,3-xylene; [4] 2,6-xylene; [5] xylene; [6] 2,4(or 2,5)-xylene [7] 604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
51	bis(2-chloroethoxy)methane 203-920-2	111-91-1			<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
52	2,4-dichlorophenol 604-011-00-7	204-429-6	120-83-2		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
53	4-chloroaniline 612-137-00-9	203-401-0	106-47-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
54	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol 604-014-00-3	200-431-6	59-50-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
55	2,4,6-trichlorophenol 604-018-00-5	201-795-9	88-06-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
56	2,4,5-trichlorophenol 604-017-00-X	202-467-8	95-95-4		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
57	2-methyl naphthalene 202-078-3	91-57-6			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
58	2-chloronaphthalene 202-079-9	91-58-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
59	dimethyl phthalate 205-011-6	131-11-3			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
60	2,6-dinitrotoluene 609-049-00-8	210-106-0	606-20-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
61	2,4-dinitrotoluene; [1] dinitrotoluene [2] 609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
62	dibenzofuran 205-071-3	132-64-9			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
63	4-chlorophenylphenylether 230-281-7	7005-72-3			<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
64	diethyl phthalate 201-550-6	84-66-2			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
65	o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3] 612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
66	azobenzene 611-001-00-6	203-102-5	103-33-3		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
67	4-bromophenylphenylether 202-952-4	101-55-3			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	M/C Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
68	carbazole	201-696-0	86-74-8		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
69	dibutyl phthalate; DBP	201-557-4	84-74-2		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
70	anthraquinone	201-549-0	84-65-1		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
71	BBP; benzyl butyl phthalate	201-622-7	85-68-7		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
72	1,1,1-trichloroethane; methyl chloroform	200-756-3	71-55-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
73	1,1,2,2-tetrachloroethane	201-197-8	79-34-5		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
74	1,1,2-trichloroethane	201-166-9	79-00-5		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
75	1,1-dichloroethylene; vinylidene chloride	200-864-0	75-35-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
76	1,1-dichloropropene	209-253-3	563-58-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
77	1,2,3-trichlorobenzene	201-757-1	87-61-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
78	1,2,4-trimethylbenzene	202-436-9	95-63-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
79	1,2-dibromoethane	203-444-5	106-93-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
80	1,2-dichlorobenzene; o-dichlorobenzene	202-425-9	95-50-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
81	1,2-dichloropropane; propylene dichloride	201-152-2	78-87-5		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
82	1,3-dichlorobenzene	208-792-1	541-73-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
83	1,3-dichloropropane	205-531-3	142-28-9		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
84	1,4-dichlorobenzene; p-dichlorobenzene	203-400-5	106-46-7		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
85	2,2-dichloropropane	209-832-0	594-20-7		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
86	bromodichloromethane	200-856-7	75-27-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
87	bromomethane; methylbromide	200-813-2	74-83-9		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
88	bromobenzene	203-623-8	108-86-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
89	n-butylbenzene	203-209-7	104-51-8		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
90	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
91	chlorobenzene	203-628-5	108-90-7		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
92	chloroethane	200-830-5	75-00-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
93	chloroform; trichloromethane	200-663-8	67-66-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
94	chloromethane; methyl chloride	200-817-4	74-87-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
95	dibromochloromethane	204-704-0	124-48-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
96	1,2-dibromo-3-chloropropane	202-479-3	96-12-8		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
97	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
98	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		201-765-5	37-68-3							
99	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-796-7	99-87-6							
100	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-227-0	135-98-8							
101	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
102	trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		431-460-4	10061-02-6							
103	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
104	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
105	1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-087-00-6	204-428-0	120-82-1							
106	1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		211-135-1	630-20-6							
107	trichlorofluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-892-3	75-69-4							
108	mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-025-00-5	203-604-4	108-67-8							
109	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
110	m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]							
111	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
112	1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
113	cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
Total:								0.106 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP07---0.25

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
TP07---0.25	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
10%	Entry:
(wet weight correction)	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 0.18%)

Determinands

Moisture content: 10% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				31	mg/kg	1.32	36.837	mg/kg	0.00368 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				0.5	mg/kg	3.22	1.449	mg/kg	0.000145 %	✓	
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				1.2	mg/kg	1.142	1.234	mg/kg	0.000123 %	✓	
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				22	mg/kg	1.462	28.939	mg/kg	0.00289 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	2.27	<9.08	mg/kg	<0.000908 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				92	mg/kg	1.126	93.224	mg/kg	0.00932 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	140	mg/kg	1.56	196.537	mg/kg	0.0126 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				22	mg/kg	2.976	58.93	mg/kg	0.00589 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
11	zinc { zinc chromate }				720	mg/kg	2.774	1797.647	mg/kg	0.18 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
12	TPH (C6 to C40) petroleum group				42	mg/kg		37.8	mg/kg	0.00378 %	✓	
			TPH									
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
	ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }									
	006-007-00-5									
14	pH				10 pH		10 pH	10pH		
			PH							
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
19	phenanthrene				3.1 mg/kg		2.79 mg/kg	0.000279 %	✓	
		201-581-5	85-01-8							
20	anthracene				0.6 mg/kg		0.54 mg/kg	0.000054 %	✓	
		204-371-1	120-12-7							
21	fluoranthene				4.6 mg/kg		4.14 mg/kg	0.000414 %	✓	
		205-912-4	206-44-0							
22	pyrene				4 mg/kg		3.6 mg/kg	0.00036 %	✓	
		204-927-3	129-00-0							
23	benzo[a]anthracene				3.3 mg/kg		2.97 mg/kg	0.000297 %	✓	
	601-033-00-9	200-280-6	56-55-3							
24	chrysene				2.4 mg/kg		2.16 mg/kg	0.000216 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	benzo[b]fluoranthene				2 mg/kg		1.8 mg/kg	0.00018 %	✓	
	601-034-00-4	205-911-9	205-99-2							
26	benzo[k]fluoranthene				1 mg/kg		0.9 mg/kg	0.00009 %	✓	
	601-036-00-5	205-916-6	207-08-9							
27	benzo[a]pyrene; benzo[def]chrysene				1.3 mg/kg		1.17 mg/kg	0.000117 %	✓	
	601-032-00-3	200-028-5	50-32-8							
28	indeno[123-cd]pyrene				0.84 mg/kg		0.756 mg/kg	0.0000756 %	✓	
		205-893-2	193-39-5							
29	dibenz[a,h]anthracene				0.28 mg/kg		0.252 mg/kg	0.0000252 %	✓	
	601-041-00-2	200-181-8	53-70-3							
30	benzo[ghi]perylene				0.86 mg/kg		0.774 mg/kg	0.0000774 %	✓	
		205-883-8	191-24-2							
31	polychlorobiphenyls; PCB				<0.007 mg/kg		<0.007 mg/kg	<0.0000007 %		<LOD
	602-039-00-4	215-648-1	1336-36-3							
32	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
33	asbestos				400 mg/kg		360 mg/kg	0.036 %	✓	
	650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5							
Total:								0.258 %		

Key

- User supplied data
- Determinand values ignored for classification, see column 'Conc. Not Used' for reason
- Hazardous result
- Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- 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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00378%)

Classification of sample: TP08---1.20

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP08---1.20	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
18%	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)	Entry:

Hazard properties

None identified

Determinands

Moisture content: 18% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used	
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				120	mg/kg	1.32	129.92	mg/kg	0.013 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		boron { diboron trioxide ; boric oxide }				1.3	mg/kg	3.22	3.432	mg/kg	0.000343 %	✓	
		005-008-00-8	215-125-8	1303-86-2									
3		cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
		048-002-00-0	215-146-2	1306-19-0									
4		chromium in chromium(III) compounds {  chromium(III) oxide (worst case) }				26	mg/kg	1.462	31.16	mg/kg	0.00312 %	✓	
			215-160-9	1308-38-9									
5		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	2.27	<9.08	mg/kg	<0.000908 %		<LOD
		024-017-00-8											
6		copper { dicopper oxide ; copper (I) oxide }				430	mg/kg	1.126	396.988	mg/kg	0.0397 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
7		lead { lead chromate }			1	170	mg/kg	1.56	217.438	mg/kg	0.0139 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
8		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
9		nickel { nickel chromate }				40	mg/kg	2.976	97.621	mg/kg	0.00976 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
10		selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		028-031-00-5	239-125-2	15060-62-5									
11		zinc { zinc chromate }				390	mg/kg	2.774	887.172	mg/kg	0.0887 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
12		TPH (C6 to C40) petroleum group				140	mg/kg		114.8	mg/kg	0.0115 %	✓	
				TPH									
13		tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		603-181-00-X	216-653-1	1634-04-4									
14		benzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-020-00-8	200-753-7	71-43-2									
15		toluene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-021-00-3	203-625-9	108-88-3									
16		ethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		601-023-00-4	202-849-4	100-41-4									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
17	xylene 601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %			<LOD
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
19	pH		PH		8 pH		8 pH	8pH			
20	naphthalene 601-052-00-2	202-049-5	91-20-3		0.57 mg/kg		0.467 mg/kg	0.0000467 %	✓		
21	acenaphthylene 205-917-1	208-96-8			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
22	acenaphthene 201-469-6	83-32-9			4.1 mg/kg		3.362 mg/kg	0.000336 %	✓		
23	fluorene 201-695-5	86-73-7			2.6 mg/kg		2.132 mg/kg	0.000213 %	✓		
24	phenanthrene 201-581-5	85-01-8			15 mg/kg		12.3 mg/kg	0.00123 %	✓		
25	anthracene 204-371-1	120-12-7			3.2 mg/kg		2.624 mg/kg	0.000262 %	✓		
26	fluoranthene 205-912-4	206-44-0			14 mg/kg		11.48 mg/kg	0.00115 %	✓		
27	pyrene 204-927-3	129-00-0			10 mg/kg		8.2 mg/kg	0.00082 %	✓		
28	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		10 mg/kg		8.2 mg/kg	0.00082 %	✓		
29	chrysene 601-048-00-0	205-923-4	218-01-9		7.4 mg/kg		6.068 mg/kg	0.000607 %	✓		
30	benzo[b]fluoranthene 601-034-00-4	205-911-9	205-99-2		6.9 mg/kg		5.658 mg/kg	0.000566 %	✓		
31	benzo[k]fluoranthene 601-036-00-5	205-916-6	207-08-9		3.3 mg/kg		2.706 mg/kg	0.000271 %	✓		
32	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		4.4 mg/kg		3.608 mg/kg	0.000361 %	✓		
33	indeno[123-cd]pyrene 205-893-2	193-39-5			3.2 mg/kg		2.624 mg/kg	0.000262 %	✓		
34	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		1.3 mg/kg		1.066 mg/kg	0.000107 %	✓		
35	benzo[ghi]perylene 205-883-8	191-24-2			3.2 mg/kg		2.624 mg/kg	0.000262 %	✓		
36	phenol 604-001-00-2	203-632-7	108-95-2		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
37	1,1-dichloroethane and 1,2-dichloroethane (combined) 203-458-1, 200-863-5	107-06-2, 75-34-3			<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
38	tetrachloroethylene 602-028-00-4	204-825-9	127-18-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
39	carbon tetrachloride; tetrachloromethane 602-008-00-5	200-262-8	56-23-5		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
40	trichloroethylene; trichloroethene 602-027-00-9	201-167-4	79-01-6		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
41	vinyl chloride; chloroethylene 602-023-00-7	200-831-0	75-01-4		<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
42	hexachlorobenzene 602-065-00-6	204-273-9	118-74-1		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %			<LOD
43	aniline 612-008-00-7	200-539-3	62-53-3		<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
	CLP index number	EC Number	CAS Number							
44	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4] 604-008-00-0	202-433-2 [1] 203-402-6 [2] 203-582-6 [3] 246-691-4 [4]	95-57-8 [1] 106-48-9 [2] 108-43-0 [3] 25167-80-0 [4]		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
45	bis(2-chloroethyl) ether 603-029-00-2	203-870-1	111-44-4		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
46	hexachloroethane 200-666-4	67-72-1			<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
47	nitrobenzene 609-003-00-7	202-716-0	98-95-3		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
48	3,5,5-trimethylcyclohex-2-enone; isophorone 606-012-00-8	201-126-0	78-59-1		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
49	2-nitrophenol 201-857-5	88-75-5			<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
50	3,4-xylene; [1] 2,5-xylene; [2] 2,4-xylene; [3] 2,3-xylene; [4] 2,6-xylene; [5] xylene; [6] 2,4(or 2,5)-xylene [7] 604-006-00-X	202-439-5 [1] 202-461-5 [2] 203-321-6 [3] 208-395-3 [4] 209-400-1 [5] 215-089-3 [6] 276-245-4 [7]	95-65-8 [1] 95-87-4 [2] 105-67-9 [3] 526-75-0 [4] 576-26-1 [5] 1300-71-6 [6] 71975-58-1 [7]		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
51	bis(2-chloroethoxy)methane 203-920-2	111-91-1			<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
52	2,4-dichlorophenol 604-011-00-7	204-429-6	120-83-2		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
53	4-chloroaniline 612-137-00-9	203-401-0	106-47-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
54	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol 604-014-00-3	200-431-6	59-50-7		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
55	2,4,6-trichlorophenol 604-018-00-5	201-795-9	88-06-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
56	2,4,5-trichlorophenol 604-017-00-X	202-467-8	95-95-4		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
57	2-methyl naphthalene 202-078-3	91-57-6			1.9 mg/kg		1.558 mg/kg	0.000156 %	✓	
58	2-chloronaphthalene 202-079-9	91-58-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
59	dimethyl phthalate 205-011-6	131-11-3			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
60	2,6-dinitrotoluene 609-049-00-8	210-106-0	606-20-2		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
61	2,4-dinitrotoluene; [1] dinitrotoluene [2] 609-007-00-9	204-450-0 [1] 246-836-1 [2]	121-14-2 [1] 25321-14-6 [2]		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
62	dibenzofuran 205-071-3	132-64-9			2.6 mg/kg		2.132 mg/kg	0.000213 %	✓	
63	4-chlorophenylphenylether 230-281-7	7005-72-3			<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
64	diethyl phthalate 201-550-6	84-66-2			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
65	o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3] 612-012-00-9	201-855-4 [1] 202-729-1 [2] 202-810-1 [3]	88-74-4 [1] 99-09-2 [2] 100-01-6 [3]		<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
66	azobenzene 611-001-00-6	203-102-5	103-33-3		<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
67	4-bromophenylphenylether 202-952-4	101-55-3			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	M/C Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
68	carbazole	201-696-0	86-74-8		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
69	dibutyl phthalate; DBP	201-557-4	84-74-2		<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
70	anthraquinone	201-549-0	84-65-1		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
71	BBP; benzyl butyl phthalate	201-622-7	85-68-7		<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
72	1,1,1-trichloroethane; methyl chloroform	200-756-3	71-55-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
73	1,1,2,2-tetrachloroethane	201-197-8	79-34-5		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
74	1,1,2-trichloroethane	201-166-9	79-00-5		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
75	1,1-dichloroethylene; vinylidene chloride	200-864-0	75-35-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
76	1,1-dichloropropene	209-253-3	563-58-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
77	1,2,3-trichlorobenzene	201-757-1	87-61-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
78	1,2,4-trimethylbenzene	202-436-9	95-63-6		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
79	1,2-dibromoethane	203-444-5	106-93-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
80	1,2-dichlorobenzene; o-dichlorobenzene	202-425-9	95-50-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
81	1,2-dichloropropane; propylene dichloride	201-152-2	78-87-5		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
82	1,3-dichlorobenzene	208-792-1	541-73-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
83	1,3-dichloropropane	205-531-3	142-28-9		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
84	1,4-dichlorobenzene; p-dichlorobenzene	203-400-5	106-46-7		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
85	2,2-dichloropropane	209-832-0	594-20-7		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
86	bromodichloromethane	200-856-7	75-27-4		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
87	bromomethane; methylbromide	200-813-2	74-83-9		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
88	bromobenzene	203-623-8	108-86-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
89	n-butylbenzene	203-209-7	104-51-8		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
90	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]	208-826-5 [1] 233-195-8 [2]	542-75-6 [1] 10061-01-5 [2]		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
91	chlorobenzene	203-628-5	108-90-7		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
92	chloroethane	200-830-5	75-00-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
93	chloroform; trichloromethane	200-663-8	67-66-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
94	chloromethane; methyl chloride	200-817-4	74-87-3		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
95	dibromochloromethane	204-704-0	124-48-1		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
96	1,2-dibromo-3-chloropropane	202-479-3	96-12-8		<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
97	dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-003-00-8	200-824-2	74-95-3							
98	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		201-765-5	37-68-3							
99	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-796-7	99-87-6							
100	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		205-227-0	135-98-8							
101	styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-026-00-0	202-851-5	100-42-5							
102	trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		431-460-4	10061-02-6							
103	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		202-632-4	98-06-6							
104	bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-007-00-X	200-854-6	75-25-2							
105	1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-087-00-6	204-428-0	120-82-1							
106	1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		211-135-1	630-20-6							
107	trichlorofluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
		200-892-3	75-69-4							
108	mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	601-025-00-5	203-604-4	108-67-8							
109	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
110	m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD
	604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]							
111	2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]							
112	1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]							
113	cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD
	601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]							
Total:								0.19 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0115%)

Classification of sample: TP08---1.60

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP08---1.60	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
17%	Entry:
(wet weight correction)	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 17% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				28 mg/kg	1.32	30.684 mg/kg	0.00307 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	boron { diboron trioxide; boric oxide }				0.7 mg/kg	3.22	1.871 mg/kg	0.000187 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18 mg/kg	1.462	21.836 mg/kg	0.00218 %	✓	
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	2.27	<9.08 mg/kg	<0.000908 %		<LOD
	024-017-00-8									
6	copper { dicopper oxide; copper (I) oxide }				56 mg/kg	1.126	52.331 mg/kg	0.00523 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
7	lead { lead chromate }			1	47 mg/kg	1.56	60.848 mg/kg	0.0039 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
8	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
9	nickel { nickel chromate }				21 mg/kg	2.976	51.876 mg/kg	0.00519 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
10	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
11	zinc { zinc chromate }				86 mg/kg	2.774	198.019 mg/kg	0.0198 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
12	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
14	pH				7.2 pH		7.2 pH	7.2 pH		
			PH							
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
17	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
18	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
19	phenanthrene	201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
20	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
21	fluoranthene	205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
22	pyrene	204-927-3	129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
23	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
24	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
25	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
29	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
30	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
31	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
Total:									0.0422 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: TP09---0.50

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
TP09---0.50	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
15% (wet weight correction)	Entry:
	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 15% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				24 mg/kg	1.32	26.935 mg/kg	0.00269 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	boron { diboron trioxide; boric oxide }				0.6 mg/kg	3.22	1.642 mg/kg	0.000164 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				13 mg/kg	1.462	16.15 mg/kg	0.00162 %	✓	
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	2.27	<9.08 mg/kg	<0.000908 %		<LOD
	024-017-00-8									
6	copper { dicopper oxide; copper (I) oxide }				45 mg/kg	1.126	43.065 mg/kg	0.00431 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
7	lead { lead chromate }			1	32 mg/kg	1.56	42.427 mg/kg	0.00272 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
8	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
9	nickel { nickel chromate }				19 mg/kg	2.976	48.067 mg/kg	0.00481 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
10	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
11	zinc { zinc chromate }				75 mg/kg	2.774	176.852 mg/kg	0.0177 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
12	TPH (C6 to C40) petroleum group				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD
			TPH							
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %		<LOD
	006-007-00-5									
14	pH				7.9 pH		7.9 pH	7.9 pH		
			PH							
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
17	acenaphthene	201-469-6	83-32-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
18	fluorene	201-695-5	86-73-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
19	phenanthrene	201-581-5	85-01-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
20	anthracene	204-371-1	120-12-7		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
21	fluoranthene	205-912-4	206-44-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
22	pyrene	204-927-3	129-00-0		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
23	benzo[a]anthracene	601-033-00-9	200-280-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
24	chrysene	601-048-00-0	205-923-4		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
25	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
26	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
27	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
28	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
29	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
30	benzo[ghi]perylene	205-883-8	191-24-2		<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
31	monohydric phenols		P1186		<1 mg/kg		<1 mg/kg	<0.0001 %			<LOD
Total:									0.0366 %		

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 Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

Classification of sample: TP10---0.60

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
TP10---0.60	Chapter:
Moisture content:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
8.8%	Entry:
(wet weight correction)	17 05 03 * (Soil and stones containing hazardous substances)

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 0.152%)

Determinands

Moisture content: 8.8% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
1	arsenic { arsenic trioxide }				36 mg/kg	1.32	43.349 mg/kg	0.00433 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
2	boron { diboron trioxide; boric oxide }				0.7 mg/kg	3.22	2.056 mg/kg	0.000206 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
3	cadmium { cadmium oxide }				<0.2 mg/kg	1.142	<0.228 mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0							
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				38 mg/kg	1.462	50.652 mg/kg	0.00507 %	✓	
		215-160-9	1308-38-9							
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4 mg/kg	2.27	<9.08 mg/kg	<0.000908 %		<LOD
	024-017-00-8									
6	copper { dicopper oxide; copper (I) oxide }				190 mg/kg	1.126	195.094 mg/kg	0.0195 %	✓	
	029-002-00-X	215-270-7	1317-39-1							
7	lead { lead chromate }			1	160 mg/kg	1.56	227.608 mg/kg	0.0146 %	✓	
	082-004-00-2	231-846-0	7758-97-6							
8	mercury { mercury dichloride }				<0.3 mg/kg	1.353	<0.406 mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
9	nickel { nickel chromate }				34 mg/kg	2.976	92.288 mg/kg	0.00923 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
10	selenium { nickel selenate }				<1 mg/kg	2.554	<2.554 mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5							
11	zinc { zinc chromate }				600 mg/kg	2.774	1518.013 mg/kg	0.152 %	✓	
	024-007-00-3	236-878-9	13530-65-9							
12	TPH (C6 to C40) petroleum group				73 mg/kg		66.576 mg/kg	0.00666 %	✓	
			TPH							
13	tert-butyl methyl ether; MTBE; 2-methoxy-2-methylpropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	603-181-00-X	216-653-1	1634-04-4							

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number								
14	benzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								
15	toluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-021-00-3	203-625-9	108-88-3								
16	ethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	601-023-00-4	202-849-4	100-41-4								
17	xylene				<0.004 mg/kg		<0.004 mg/kg	<0.0000004 %			<LOD
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]								
18	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1 mg/kg	1.884	<1.884 mg/kg	<0.000188 %			<LOD
	006-007-00-5										
19	pH				9.3 pH		9.3 pH	9.3 pH			
20	naphthalene				<0.0001 mg/kg		<0.0001 mg/kg	<0.00000001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
21	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		205-917-1	208-96-8								
22	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %			<LOD
		201-469-6	83-32-9								
23	fluorene				0.23 mg/kg		0.21 mg/kg	0.000021 %		✓	
		201-695-5	86-73-7								
24	phenanthrene				2.7 mg/kg		2.462 mg/kg	0.000246 %		✓	
		201-581-5	85-01-8								
25	anthracene				0.51 mg/kg		0.465 mg/kg	0.0000465 %		✓	
		204-371-1	120-12-7								
26	fluoranthene				8.6 mg/kg		7.843 mg/kg	0.000784 %		✓	
		205-912-4	206-44-0								
27	pyrene				6.9 mg/kg		6.293 mg/kg	0.000629 %		✓	
		204-927-3	129-00-0								
28	benzo[a]anthracene				6 mg/kg		5.472 mg/kg	0.000547 %		✓	
	601-033-00-9	200-280-6	56-55-3								
29	chrysene				4.4 mg/kg		4.013 mg/kg	0.000401 %		✓	
	601-048-00-0	205-923-4	218-01-9								
30	benzo[b]fluoranthene				5.1 mg/kg		4.651 mg/kg	0.000465 %		✓	
	601-034-00-4	205-911-9	205-99-2								
31	benzo[k]fluoranthene				2.4 mg/kg		2.189 mg/kg	0.000219 %		✓	
	601-036-00-5	205-916-6	207-08-9								
32	benzo[a]pyrene; benzo[def]chrysene				3.6 mg/kg		3.283 mg/kg	0.000328 %		✓	
	601-032-00-3	200-028-5	50-32-8								
33	indeno[123-cd]pyrene				2.1 mg/kg		1.915 mg/kg	0.000192 %		✓	
		205-893-2	193-39-5								
34	dibenz[a,h]anthracene				0.76 mg/kg		0.693 mg/kg	0.0000693 %		✓	
	601-041-00-2	200-181-8	53-70-3								
35	benzo[ghi]perylene				2.5 mg/kg		2.28 mg/kg	0.000228 %		✓	
		205-883-8	191-24-2								
36	phenol				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
	604-001-00-2	203-632-7	108-95-2								
37	1,1-dichloroethane and 1,2-dichloroethane (combined)				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %			<LOD
		203-458-1, 200-863-5	107-06-2, 75-34-3								
38	tetrachloroethylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-028-00-4	204-825-9	127-18-4								
39	carbon tetrachloride; tetrachloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-008-00-5	200-262-8	56-23-5								
40	trichloroethylene; trichloroethene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %			<LOD
	602-027-00-9	201-167-4	79-01-6								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
41	vinyl chloride; chloroethylene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD
	602-023-00-7	200-831-0	75-01-4							
42	hexachlorobenzene				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	602-065-00-6	204-273-9	118-74-1							
43	aniline				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	612-008-00-7	200-539-3	62-53-3							
44	2-chlorophenol; [1] 4-chlorophenol; [2] 3-chlorophenol; [3] chlorophenol [4]				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	604-008-00-0	202-433-2 [1]	95-57-8 [1]							
		203-402-6 [2]	106-48-9 [2]							
		203-582-6 [3]	108-43-0 [3]							
		246-691-4 [4]	25167-80-0 [4]							
45	bis(2-chloroethyl) ether				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	603-029-00-2	203-870-1	111-44-4							
46	hexachloroethane				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		200-666-4	67-72-1							
47	nitrobenzene				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	609-003-00-7	202-716-0	98-95-3							
48	3,5,5-trimethylcyclohex-2-enone; isophorone				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	606-012-00-8	201-126-0	78-59-1							
49	2-nitrophenol				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
		201-857-5	98-75-5							
50	3,4-xyleneol; [1] 2,5-xyleneol; [2] 2,4-xyleneol; [3] 2,3-xyleneol; [4] 2,6-xyleneol; [5] xyleneol; [6] 2,4(or 2,5)-xyleneol [7]				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	604-006-00-X	202-439-5 [1]	95-65-8 [1] 95-87-4							
		202-461-5 [2]	[2] 105-67-9 [3]							
		203-321-6 [3]	526-75-0 [4]							
		208-395-3 [4]	576-26-1 [5]							
		209-400-1 [5]	1300-71-6 [6]							
		215-089-3 [6]	71975-58-1 [7]							
		276-245-4 [7]								
51	bis(2-chloroethoxy)methane				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
		203-920-2	111-91-1							
52	2,4-dichlorophenol				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
	604-011-00-7	204-429-6	120-83-2							
53	4-chloroaniline				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	612-137-00-9	203-401-0	106-47-8							
54	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	604-014-00-3	200-431-6	59-50-7							
55	2,4,6-trichlorophenol				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	604-018-00-5	201-795-9	88-06-2							
56	2,4,5-trichlorophenol				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	604-017-00-X	202-467-8	95-95-4							
57	2-methyl naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		202-078-3	91-57-6							
58	2-chloronaphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		202-079-9	91-58-7							
59	dimethyl phthalate				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-011-6	131-11-3							
60	2,6-dinitrotoluene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	609-049-00-8	210-106-0	606-20-2							
61	2,4-dinitrotoluene; [1] dinitrotoluene [2]				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
	609-007-00-9	204-450-0 [1]	121-14-2 [1]							
		246-836-1 [2]	25321-14-6 [2]							
62	dibenzofuran				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		205-071-3	132-64-9							
63	4-chlorophenylphenylether				<0.3 mg/kg		<0.3 mg/kg	<0.00003 %		<LOD
		230-281-7	7005-72-3							
64	diethyl phthalate				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %		<LOD
		201-550-6	84-66-2							

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
65	o-nitroaniline; [1] m-nitroaniline; [2] p-nitroaniline [3]				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	612-012-00-9	201-855-4 [1]	88-74-4 [1] 99-09-2									
		202-729-1 [2]	[2] 100-01-6 [3]									
66	azobenzene				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
	611-001-00-6	203-102-5	103-33-3									
67	4-bromophenylphenylether				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
		202-952-4	101-55-3									
68	carbazole				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
		201-696-0	86-74-8									
69	dibutyl phthalate; DBP				<0.2	mg/kg		<0.2	mg/kg	<0.00002 %		<LOD
	607-318-00-4	201-557-4	84-74-2									
70	anthraquinone				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
	606-151-00-4	201-549-0	84-65-1									
71	BBP; benzyl butyl phthalate				<0.3	mg/kg		<0.3	mg/kg	<0.00003 %		<LOD
	607-430-00-3	201-622-7	85-68-7									
72	1,1,1-trichloroethane; methyl chloroform				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-013-00-2	200-756-3	71-55-6									
73	1,1,2,2-tetrachloroethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-015-00-3	201-197-8	79-34-5									
74	1,1,2-trichloroethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-014-00-8	201-166-9	79-00-5									
75	1,1-dichloroethylene; vinylidene chloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-025-00-8	200-864-0	75-35-4									
76	1,1-dichloropropene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-031-00-0	209-253-3	563-58-6									
77	1,2,3-trichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		201-757-1	87-61-6									
78	1,2,4-trimethylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	601-043-00-3	202-436-9	95-63-6									
79	1,2-dibromoethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-010-00-6	203-444-5	106-93-4									
80	1,2-dichlorobenzene; o-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-034-00-7	202-425-9	95-50-1									
81	1,2-dichloropropane; propylene dichloride				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-020-00-0	201-152-2	78-87-5									
82	1,3-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-067-00-7	208-792-1	541-73-1									
83	1,3-dichloropropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		205-531-3	142-28-9									
84	1,4-dichlorobenzene; p-dichlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-035-00-2	203-400-5	106-46-7									
85	2,2-dichloropropane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		209-832-0	594-20-7									
86	bromodichloromethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		200-856-7	75-27-4									
87	bromomethane; methylbromide				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-002-00-2	200-813-2	74-83-9									
88	bromobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-060-00-9	203-623-8	108-86-1									
89	n-butylbenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
		203-209-7	104-51-8									
90	1,3-dichloropropene; [1] (Z)-1,3-dichloropropene [2]				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-030-00-5	208-826-5 [1]	542-75-6 [1]									
		233-195-8 [2]	10061-01-5 [2]									
91	chlorobenzene				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-033-00-1	203-628-5	108-90-7									
92	chloroethane				<0.001	mg/kg		<0.001	mg/kg	<0.0000001 %		<LOD
	602-009-00-0	200-830-5	75-00-3									

#		Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number								
93		chloroform; trichloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
		602-006-00-4	200-663-8	67-66-3								
94		chloromethane; methyl chloride				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
		602-001-00-7	200-817-4	74-87-3								
95	■	dibromochloromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
			204-704-0	124-48-1								
96		1,2-dibromo-3-chloropropane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
		602-021-00-6	202-479-3	96-12-8								
97		dibromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
		602-003-00-8	200-824-2	74-95-3								
98	■	hexachlorobutadiene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
			201-765-5	87-68-3								
99	■	4-isopropyltoluene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
			202-796-7	99-87-6								
100	■	sec-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
			205-227-0	135-98-8								
101		styrene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
		601-026-00-0	202-851-5	100-42-5								
102	■	trans-1,3-dichloropropene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
			431-460-4	10061-02-6								
103	■	tert-butylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
			202-632-4	98-06-6								
104		bromoform; tribromomethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
		602-007-00-X	200-854-6	75-25-2								
105		1,2,4-trichlorobenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
		602-087-00-6	204-428-0	120-82-1								
106	■	1,1,1,2-tetrachloroethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
			211-135-1	630-20-6								
107	■	trichlorofluoromethane				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
			200-892-3	75-69-4								
108		mesitylene; 1,3,5-trimethylbenzene				<0.001 mg/kg		<0.001 mg/kg	<0.0000001 %		<LOD	
		601-025-00-5	203-604-4	108-67-8								
109	■	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD	
				P1186								
110		asbestos				<10 mg/kg		<10 mg/kg	<0.001 %		<LOD	
		650-013-00-6	-----	12001-28-4 132207-32-0 12172-73-5 77536-66-4 77536-68-6 77536-67-5 12001-29-5								
111		m-cresol; [1] o-cresol; [2] p-cresol; [3] mix-cresol [4]				<0.5 mg/kg		<0.5 mg/kg	<0.00005 %		<LOD	
		604-004-00-9	203-577-9 [1] 202-423-8 [2] 203-398-6 [3] 215-293-2 [4]	108-39-4 [1] 95-48-7 [2] 106-44-5 [3] 1319-77-3 [4]								
112		2-chlorotoluene; [1] 3-chlorotoluene; [2] 4-chlorotoluene; [3] chlorotoluene [4]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		602-040-00-X	202-424-3 [1] 203-580-5 [2] 203-397-0 [3] 246-698-2 [4]	95-49-8 [1] 108-41-8 [2] 106-43-4 [3] 25168-05-2 [4]								
113		1,2-dichloroethylene; [1] cis-dichloroethylene; [2] trans-dichloroethylene [3]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		602-026-00-3	208-750-2 [1] 205-859-7 [2] 205-860-2 [3]	540-59-0 [1] 156-59-2 [2] 156-60-5 [3]								
114		cumene; [1] propylbenzene [2]				<0.002 mg/kg		<0.002 mg/kg	<0.0000002 %		<LOD	
		601-024-00-X	202-704-5 [1] 203-132-9 [2]	98-82-8 [1] 103-65-1 [2]								
Total:										0.219 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00666%)

Classification of sample: WS05---0.10

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:	
WS05---0.10	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
11% (wet weight correction)		

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 0.321%)

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinand:

zinc chromate: (compound conc.: 0.321%)

Determinands

Moisture content: 11% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value		MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number										
1		arsenic { arsenic trioxide }				33	mg/kg	1.32	38.778	mg/kg	0.00388 %		✓	
		033-003-00-0	215-481-4	1327-53-3										
2		boron { diboron trioxide; boric oxide }				0.6	mg/kg	3.22	1.719	mg/kg	0.000172 %		✓	
		005-008-00-8	215-125-8	1303-86-2										
3		cadmium { cadmium oxide }				1.3	mg/kg	1.142	1.322	mg/kg	0.000132 %		✓	
		048-002-00-0	215-146-2	1306-19-0										
4		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				23	mg/kg	1.462	29.918	mg/kg	0.00299 %		✓	
			215-160-9	1308-38-9										
5		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	2.27	<9.08	mg/kg	<0.000908 %			<LOD
		024-017-00-8												
6		copper { dicopper oxide; copper (I) oxide }				370	mg/kg	1.126	370.755	mg/kg	0.0371 %		✓	
		029-002-00-X	215-270-7	1317-39-1										
7		lead { lead chromate }			1	330	mg/kg	1.56	458.118	mg/kg	0.0294 %		✓	
		082-004-00-2	231-846-0	7758-97-6										
8		mercury { mercury dichloride }				1.4	mg/kg	1.353	1.686	mg/kg	0.000169 %		✓	
		080-010-00-X	231-299-8	7487-94-7										
9		nickel { nickel chromate }				47	mg/kg	2.976	124.497	mg/kg	0.0124 %		✓	
		028-035-00-7	238-766-5	14721-18-7										
10		selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %			<LOD
		028-031-00-5	239-125-2	15060-62-5										

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
11	zinc { zinc chromate }				1300	mg/kg	2.774	3209.688	mg/kg	0.321 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
12	TPH (C6 to C40) petroleum group				240	mg/kg		213.6	mg/kg	0.0214 %	✓	
			TPH									
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD
	006-007-00-5											
14	pH				8.5	pH		8.5	pH	8.5 pH		
			PH									
15	naphthalene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8									
17	acenaphthene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9									
18	fluorene				<0.05	mg/kg		<0.05	mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7									
19	phenanthrene				2.4	mg/kg		2.136	mg/kg	0.000214 %	✓	
		201-581-5	85-01-8									
20	anthracene				0.39	mg/kg		0.347	mg/kg	0.0000347 %	✓	
		204-371-1	120-12-7									
21	fluoranthene				3.8	mg/kg		3.382	mg/kg	0.000338 %	✓	
		205-912-4	206-44-0									
22	pyrene				3.2	mg/kg		2.848	mg/kg	0.000285 %	✓	
		204-927-3	129-00-0									
23	benzo[a]anthracene				2.2	mg/kg		1.958	mg/kg	0.000196 %	✓	
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				2.3	mg/kg		2.047	mg/kg	0.000205 %	✓	
	601-048-00-0	205-923-4	218-01-9									
25	benzo[b]fluoranthene				1.9	mg/kg		1.691	mg/kg	0.000169 %	✓	
	601-034-00-4	205-911-9	205-99-2									
26	benzo[k]fluoranthene				0.87	mg/kg		0.774	mg/kg	0.0000774 %	✓	
	601-036-00-5	205-916-6	207-08-9									
27	benzo[a]pyrene; benzo[def]chrysene				1.3	mg/kg		1.157	mg/kg	0.000116 %	✓	
	601-032-00-3	200-028-5	50-32-8									
28	indeno[123-cd]pyrene				0.97	mg/kg		0.863	mg/kg	0.0000863 %	✓	
		205-893-2	193-39-5									
29	dibenz[a,h]anthracene				0.29	mg/kg		0.258	mg/kg	0.0000258 %	✓	
	601-041-00-2	200-181-8	53-70-3									
30	benzo[ghi]perylene				1	mg/kg		0.89	mg/kg	0.000089 %	✓	
		205-883-8	191-24-2									
31	monohydric phenols				<1	mg/kg		<1	mg/kg	<0.0001 %		<LOD
			P1186									
Total:										0.432 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
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 present in free phase

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0214%)

Classification of sample: WS06---0.90

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
WS06---0.90	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
39% (wet weight correction)	

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 0.203%)

Determinands

Moisture content: 39% Wet Weight Moisture Correction applied (MC)

#		Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
		CLP index number	EC Number	CAS Number									
1		arsenic { arsenic trioxide }				7	mg/kg	1.32	5.638	mg/kg	0.000564 %	✓	
		033-003-00-0	215-481-4	1327-53-3									
2		boron { diboron trioxide ; boric oxide }				0.5	mg/kg	3.22	0.982	mg/kg	0.0000982 %	✓	
		005-008-00-8	215-125-8	1303-86-2									
3		cadmium { cadmium oxide }				0.3	mg/kg	1.142	0.209	mg/kg	0.0000209 %	✓	
		048-002-00-0	215-146-2	1306-19-0									
4		chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				9.6	mg/kg	1.462	8.559	mg/kg	0.000856 %	✓	
			215-160-9	1308-38-9									
5		chromium in chromium(VI) compounds { chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	2.27	<9.08	mg/kg	<0.000908 %		<LOD
		024-017-00-8											
6		copper { dicopper oxide ; copper (I) oxide }				24	mg/kg	1.126	16.483	mg/kg	0.00165 %	✓	
		029-002-00-X	215-270-7	1317-39-1									
7		lead { lead chromate }			1	17	mg/kg	1.56	16.175	mg/kg	0.00104 %	✓	
		082-004-00-2	231-846-0	7758-97-6									
8		mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
		080-010-00-X	231-299-8	7487-94-7									
9		nickel { nickel chromate }				30	mg/kg	2.976	54.466	mg/kg	0.00545 %	✓	
		028-035-00-7	238-766-5	14721-18-7									
10		selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
		028-031-00-5	239-125-2	15060-62-5									
11		zinc { zinc chromate }				1200	mg/kg	2.774	2030.675	mg/kg	0.203 %	✓	
		024-007-00-3	236-878-9	13530-65-9									
12		TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
				TPH									
13		cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides.				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
	ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }									
	006-007-00-5									
14	pH				7.8 pH		7.8 pH	7.8 pH		
			PH							
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
19	phenanthrene				0.6 mg/kg		0.366 mg/kg	0.0000366 %	✓	
		201-581-5	85-01-8							
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
21	fluoranthene				0.36 mg/kg		0.22 mg/kg	0.000022 %	✓	
		205-912-4	206-44-0							
22	pyrene				0.39 mg/kg		0.238 mg/kg	0.0000238 %	✓	
		204-927-3	129-00-0							
23	benzo[a]anthracene				0.35 mg/kg		0.213 mg/kg	0.0000213 %	✓	
	601-033-00-9	200-280-6	56-55-3							
24	chrysene				0.35 mg/kg		0.213 mg/kg	0.0000213 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
26	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
27	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
29	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
30	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
31	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
Total:								0.215 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
•	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: TP15---1.00

Hazardous Waste
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
TP15---1.00	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	Entry: 17 05 03 * (Soil and stones containing hazardous substances)
34% (wet weight correction)	

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate: (compound conc.: 0.108%)

Determinands

Moisture content: 34% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number									
1	arsenic { arsenic trioxide }				32	mg/kg	1.32	27.885	mg/kg	0.00279 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
2	boron { diboron trioxide; boric oxide }				1.2	mg/kg	3.22	2.55	mg/kg	0.000255 %	✓	
	005-008-00-8	215-125-8	1303-86-2									
3	cadmium { cadmium oxide }				<0.2	mg/kg	1.142	<0.228	mg/kg	<0.0000228 %		<LOD
	048-002-00-0	215-146-2	1306-19-0									
4	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				11	mg/kg	1.462	10.611	mg/kg	0.00106 %	✓	
		215-160-9	1308-38-9									
5	chromium in chromium(VI) compounds { chromium(VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex }				<4	mg/kg	2.27	<9.08	mg/kg	<0.000908 %		<LOD
	024-017-00-8											
6	copper { dicopper oxide; copper (I) oxide }				110	mg/kg	1.126	81.739	mg/kg	0.00817 %	✓	
	029-002-00-X	215-270-7	1317-39-1									
7	lead { lead chromate }			1	41	mg/kg	1.56	42.209	mg/kg	0.00271 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
8	mercury { mercury dichloride }				<0.3	mg/kg	1.353	<0.406	mg/kg	<0.0000406 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
9	nickel { nickel chromate }				43	mg/kg	2.976	84.466	mg/kg	0.00845 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
10	selenium { nickel selenate }				<1	mg/kg	2.554	<2.554	mg/kg	<0.000255 %		<LOD
	028-031-00-5	239-125-2	15060-62-5									
11	zinc { zinc chromate }				590	mg/kg	2.774	1080.253	mg/kg	0.108 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
12	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
13	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, }				<1	mg/kg	1.884	<1.884	mg/kg	<0.000188 %		<LOD

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	CLP index number	EC Number	CAS Number							
	ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }									
	006-007-00-5									
14	pH				7.4 pH		7.4 pH	7.4 pH		
			PH							
15	naphthalene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-917-1	208-96-8							
17	acenaphthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-469-6	83-32-9							
18	fluorene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-695-5	86-73-7							
19	phenanthrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		201-581-5	85-01-8							
20	anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-371-1	120-12-7							
21	fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-912-4	206-44-0							
22	pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		204-927-3	129-00-0							
23	benzo[a]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-033-00-9	200-280-6	56-55-3							
24	chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-048-00-0	205-923-4	218-01-9							
25	benzo[b]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-034-00-4	205-911-9	205-99-2							
26	benzo[k]fluoranthene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-036-00-5	205-916-6	207-08-9							
27	benzo[a]pyrene; benzo[def]chrysene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-032-00-3	200-028-5	50-32-8							
28	indeno[123-cd]pyrene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-893-2	193-39-5							
29	dibenz[a,h]anthracene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
30	benzo[ghi]perylene				<0.05 mg/kg		<0.05 mg/kg	<0.000005 %		<LOD
		205-883-8	191-24-2							
31	monohydric phenols				<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
			P1186							
Total:								0.134 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Appendix A: Classifier defined and non CLP determinands

• **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

• **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

CLP index number: 601-023-00-4

Description/Comments:

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

• **acenaphthylene** (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 1 H330 , Acute Tox. 1 H310 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315

• **acenaphthene** (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Aquatic Chronic 2 H411

• **fluorene** (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• **phenanthrene** (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4 H302 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Skin Irrit. 2 H315

• **anthracene** (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• **fluoranthene** (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4 H302 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

• **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2 H351

▪ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **1,1-dichloroethane and 1,2-dichloroethane (combined)** (EC Number: 203-458-1, 200-863-5, CAS Number: 107-06-2, 75-34-3)

Description/Comments: Combines the hazard statements and risk phrases for 1,1-dichloroethane and 1,2-dichloroethane
Data source: N/a
Data source date: 14 Oct 2016
Hazard Statements: Flam. Liq. 2 H225 , Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 1B H350 , Aquatic Chronic 3 H412

▪ **hexachloroethane** (EC Number: 200-666-4, CAS Number: 67-72-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Carc. 2 H351 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , STOT RE 2 H373

▪ **2-nitrophenol** (EC Number: 201-857-5, CAS Number: 88-75-5)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 4 H312 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , Acute Tox. 4 H332 , STOT SE 3 H335 , STOT RE 2 H373 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **bis(2-chloroethoxy)methane** (EC Number: 203-920-2, CAS Number: 111-91-1)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 3 H301 , Acute Tox. 4 H312 , Acute Tox. 1 H330 , Acute Tox. 2 H330 , STOT SE 1 H370 , STOT RE 2 H373

▪ **2-methyl naphthalene** (EC Number: 202-078-3, CAS Number: 91-57-6)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , STOT SE 3 H336 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

▪ **2-chloronaphthalene** (EC Number: 202-079-9, CAS Number: 91-58-7)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Eye Irrit. 2 H319 , STOT SE 3 H335 , Skin Irrit. 2 H315

▪ **dimethyl phthalate** (EC Number: 205-011-6, CAS Number: 131-11-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , Acute Tox. 3 H331 , STOT SE 3 H335 , STOT SE 3 H336 , Repr. 2 H361 , Aquatic Chronic 3 H412

▪ **dibenzofuran** (EC Number: 205-071-3, CAS Number: 132-64-9)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 4 H312 , Acute Tox. 4 H332 , Aquatic Chronic 2 H411

▪ **4-chlorophenylphenylether** (EC Number: 230-281-7, CAS Number: 7005-72-3)

Description/Comments: VOC; Data from C&L Inventory Database
Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 02 Mar 2017
Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Eye Dam. 1 H318 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **diethyl phthalate** (EC Number: 201-550-6, CAS Number: 84-66-2)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Skin Irrit. 2 H315 , Acute Tox. 3 H331 , Acute Tox. 3 H311 , STOT SE 3 H335 , STOT RE 2 H373 , Repr. 2 H361 , Acute Tox. 4 H302 , STOT SE 3 H336 , Skin Sens. 1 H317 , Aquatic Chronic 1 H410

■ **4-bromophenylphenylether** (EC Number: 202-952-4, CAS Number: 101-55-3)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Eye Dam. 1 H318 , Eye Irrit. 2 H319 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **carbazole** (EC Number: 201-696-0, CAS Number: 86-74-8)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Muta. 2 H341 , Carc. 2 H351 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410 , Acute Tox. 3 H331 , Acute Tox. 3 H311 , Acute Tox. 3 H301

■ **1,2,3-trichlorobenzene** (EC Number: 201-757-1, CAS Number: 87-61-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , STOT SE 3 H336 , Aquatic Acute 1 H400 , Aquatic Chronic 3 H410

■ **1,3-dichloropropane** (EC Number: 205-531-3, CAS Number: 142-28-9)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H332 , Flam. Liq. 2 H225 , Flam. Liq. 3 H226 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335

■ **2,2-dichloropropane** (EC Number: 209-832-0, CAS Number: 594-20-7)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H332 , Flam. Liq. 2 H225 , Acute Tox. 4 H302 , Acute Tox. 4 H312 , Eye Irrit. 2 H319

■ **bromodichloromethane** (EC Number: 200-856-7, CAS Number: 75-27-4)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Skin Irrit. 2 H315 , Eye Dam. 1 H318 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Muta. 1B H340 , Carc. 1B H350 , Repr. 1A H360

■ **n-butylbenzene** (EC Number: 203-209-7, CAS Number: 104-51-8)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **dibromochloromethane** (EC Number: 204-704-0, CAS Number: 124-48-1)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 4 H312 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , Acute Tox. 4 H332 , STOT SE 3 H335 , STOT SE 3 H336 , Muta. 2 H341 , Aquatic Chronic 2 H411

■ **hexachlorobutadiene** (EC Number: 201-765-5, CAS Number: 87-68-3)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 3;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 3 H301 , Acute Tox. 2 H310 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Eye Irrit. 2 H319 , Acute Tox. 2 H330 , Carc. 2 H351 , Repr. 2 H361 , STOT SE 2 H371 , Aquatic Acute 1 H400 , Aquatic Chronic 1 H410

■ **4-isopropyltoluene** (EC Number: 202-796-7, CAS Number: 99-87-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226 , Asp. Tox. 1 H304 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , STOT SE 3 H335 , Aquatic Chronic 2 H411

■ **sec-butylbenzene** (EC Number: 205-227-0, CAS Number: 135-98-8)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226 , Asp. Tox. 1 H304 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , Aquatic Chronic 2 H411

■ **trans-1,3-dichloropropene** (EC Number: 431-460-4, CAS Number: 10061-02-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226 , Acute Tox. 3 H301 , Asp. Tox. 1 H304 , Acute Tox. 3 H311 , Skin Irrit. 2 H315 , Skin Sens. 1 H317 , Eye Irrit. 2 H319 , Acute Tox. 4 H332 , STOT SE 3 H335 , Aquatic Chronic 1 H410

■ **tert-butylbenzene** (EC Number: 202-632-4, CAS Number: 98-06-6)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Flam. Liq. 3 H226 , Skin Irrit. 2 H315 , Eye Irrit. 2 H319 , Acute Tox. 3 H331 , Acute Tox. 4 H332 , STOT SE 3 H335 , Asp. Tox. 1 H304 , Aquatic Chronic 2 H411

■ **1,1,1,2-tetrachloroethane** (EC Number: 211-135-1, CAS Number: 630-20-6)

Description/Comments: VOC; Data from C&L Inventory Database; IARC considers substance Group 2B;

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H302 , Acute Tox. 1 H310 , Eye Irrit. 2 H319 , Acute Tox. 3 H331 , Eye Dam. 1 H318 , Acute Tox. 4 H332 , Carc. 2 H351 , Acute Tox. 4 H312 , Aquatic Chronic 3 H412 , Skin Irrit. 2 H315

■ **trichlorofluoromethane** (EC Number: 200-892-3, CAS Number: 75-69-4)

Description/Comments: VOC; Data from C&L Inventory Database

Data source: <https://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 02 Mar 2017

Hazard Statements: Acute Tox. 4 H312 , Ozone 1 H420

■ **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

■ **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

CLP index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

■ **pH** (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

■ **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

Hazard Statements: Acute Tox. 3 H301 , Acute Tox. 3 H311 , Acute Tox. 3 H331 , Skin Corr. 1B H314 , Skin Corr. 1B H314 >= 3 % , Skin Irrit. 2 H315 1 % conc. < 3 % , Eye Irrit. 2 H319 1 % conc. < 3 % , Muta. 2 H341 , STOT RE 2 H373 , Aquatic Chronic 2 H411

▪ **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

CLP index number: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans; POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)

Additional Hazard Statement(s): Carc. 1A H350

Reason for additional Hazards Statement(s):

29 Sep 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

arsenic {arsenic trioxide}

Reasonable case CLP species based on hazard statements/molecular weight and most common (stable) oxide of arsenic. Industrial sources include: smelting; main precursor to other arsenic compounds (edit as required)

boron {diboron trioxide; boric oxide}

Reasonable case CLP species based on hazard statements/ molecular weight, physical form and low solubility. Industrial sources include: fluxing agent for glass/enamels; additive for fibre optics, borosilicate glass (edit as required)

cadmium {cadmium oxide}

Reasonable case CLP species based on hazard statements/molecular weight, very low solubility in water. Industrial sources include: electroplating baths, electrodes for storage batteries, catalysts, ceramic glazes, phosphors, pigments and nematocides. (edit as required) Worst case compounds in CLP: cadmium sulphate, chloride, fluoride & iodide not expected as either very soluble and/or compound's industrial usage not related to site history (edit as required)

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

Reasonable case species based on hazard statements/molecular weight. Industrial sources include: tanning, pigment in paint, inks and glass (edit as required)

chromium in chromium(VI) compounds {chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex}

Worst case species based on hazard statements/molecular weight (edit as required)

copper {dicopper oxide; copper (I) oxide}

Reasonable case CLP species based on hazard statements/molecular weight and insolubility in water. Industrial sources include: oxidised copper metal, brake pads, pigments, antifouling paints, fungicide. (edit as required) Worse case copper sulphate is very soluble and likely to have been leached away if ever present and/or not enough soluble sulphate detected. (edit as required)

lead {lead chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

mercury {mercury dichloride}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

nickel {nickel chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

selenium {nickel selenate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

zinc {zinc chromate}

Worst case CLP species based on hazard statements/molecular weight (edit as required)

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

Harmonised group entry used as most reasonable case as complex cyanides and those specified elsewhere in the annex are not likely to be present in this soil: [Note conversion factor based on a worst case compound: sodium cyanide] (edit as required)

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018

HazWasteOnline Classification Engine Version: 2021.293.4891.9295 (20 Oct 2021)

HazWasteOnline Database: 2021.293.4891.9295 (20 Oct 2021)

This classification utilises the following guidance and legislation:

WM3 v1.1 - Waste Classification - 1st Edition v1.1 - May 2018

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 2019 - UK: 2019 No. 720 of 27th March 2019

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

POPs Regulation 2019 - Regulation (EU) 2019/1021 of 20 June 2019



APPENDIX 17 - Relevant Legislative Background

Legislative Background

Environmental liabilities and risks have been evaluated in terms of a source -pathway - target relationship in accordance with the approach set out in:

- The 1995 Environment Act;
- The Contaminated Land (England) Regulations 2000;
- The DETR circular 02/2000 Environmental Protection Act 1990: Part IIA Contaminated Land.

Contaminated land is defined within the legislative framework as land which is in such condition by reason of substances in, on or under the land that:

- 1) Significant harm is being caused or there is a significant possibility of such harm being caused;
- 2) Significant pollution of controlled waters is being or is likely to be caused.

The potential for harm is based on the presence of three factors:

- **Source** - substances that are potential contaminants or pollutants that may cause harm;
- **Pathway** - a potential route by which contaminants can move from the source to the receptor;
- **Receptor** - a receptor that may be harmed, for example the water environment, humans and water.

Where a source, pathway and target are all present a pollutant linkage exists and there is potential for harm to be caused. The presence of a source does not automatically imply that a contamination problem exists, since contamination must be defined in terms of pollutant linkages and unacceptable risk of harm. The nature and importance of both pathways and receptors are site specific and will vary according to the intended end use of the site, its characteristics and its surroundings.

The key principle which supports the SPR approach is 'suitable for use' criteria. This requires remedial action only where contamination is considered to pose unacceptable actual or potential risks to health or the environment and, taking into account the proposed use of the site.

Relevant Guidance Documents

This report has been prepared in accordance with the list of guidance below however the list is not exhaustive:

- CLR11 – Model Procedures;
- Contamination and Environmental Matters - Their implications for Property Professionals (2nd Edition RICS Nov 2003);
- Brownfields – Managing the development of previously developed land – A client's guide, CIRIA 2002;
- DEFRA and Environment Agency publications CLR7 – 10, supported by the TOX guides and SGV guides, dated March 2002;
- DETR Circular 02/2000, Contaminated Land: Implementation of Part IIA of the Environmental Protection Act 1990;
- Environment Agency technical advice to third parties on Pollution of Controlled Waters for Part IIA of the EPA1990, May 2002;

Relevant Legislative Documents

The following is a non-exhaustive list of legislative framework documents that has been considered in the production of this report:

- The Environment Act (1995);
- The Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance (2012);
- The Environment Protection Act (1990);
- The Contaminated Land (England) Act (2000);
- Contaminated Land (England) Regulations (2012);
- The Water Resources Act (1991);
- The Pollution Prevention and Control (England and Wales) Regulations (2000);
- The Landfill Regulations (England and Wales) Regulations (2002);
- The Landfill (England and Wales) (Amendment) Regulations (2004);
- Health and Safety at Work Act;



APPENDIX 18 - Limitations

Limitations

This contract was completed by Groundtech Consulting on the basis of a defined programme and scope of works and terms and conditions agreed with the client. This report was compiled with due skill and care, taking into consideration the project brief provided, project objectives, agreed scope of works, prevailing site conditions and budget allocation.

Other than that defined in the paragraph above, Groundtech Consulting provides no other accountability or warranty whether express or implied, is made in relation to the services. Unless otherwise agreed this report has been prepared exclusively for the use and reliance of the client in accordance with generally accepted industry practices and for the intended purposes as stated in the agreement under which this work was completed. This report may not be relied upon, or transferred to, by any other party without the written agreement of a Director of Groundtech Consulting. A third party who relies on this report, does so at their own and sole risk and no liability to such parties is provided by Groundtech Consulting.

It is the understanding of Groundtech Consulting that this report is to be used for the intended purpose as set out in the introduction. The purpose was instrumental in determining the scope and level of the services provided. Should the purpose of the report or the proposed end use of the site change, this report will no longer be directly applicable, and its validity readdressed. No reliance upon the report in the revised situation should be assumed by the client without the permission of Groundtech Consulting.

The report was written in 2021, later changes in legislation, statutory requirements and industry best practices have not been considered and this should be allowed for. Ground conditions can also change and should be investigated if there is any significant delay in acting on the findings of this report. The period of time may result in changes in site conditions, regulatory or other legal provisions, technology or economic conditions which could render the report inaccurate or unreliable. The information and conclusions in this report should not be relied upon in the future without the written confirmation from Groundtech Consulting that it is safe to do so.

The observations and conclusions outlined in this report are based exclusively on the services that were provided as set out in the agreement between the client and Groundtech Consulting.

Groundtech Consulting are not liable for the existence of any condition, the discovery of which would require additional investigation outside the agreed scope of works or core competency. The services provided are based upon Groundtech Consulting observations of existing physical conditions at the site gained from site reconnaissance together with interpretation of information including documentation, obtained from third parties and from the client on the history and usage of the site. The findings and recommendations contained in this report are based in part upon information provided by third parties, and Groundtech Consulting assume the information to be correct.

No responsibility can be accepted for errors for third party information presented in this report. Groundtech Consulting were not authorised to independently verify the accuracy or completeness of information, documentation or materials received from the client or third parties, including laboratories and information services, during the performance of the services. Groundtech Consulting are not liable for any inaccurate information, misrepresentation of data or conclusions, which may inform the scope of investigation undertaken by Groundtech Consulting and forms the contract with the client.

Where field investigations have been carried out these have been restricted to a level of detail required to achieve the stated objectives of the work. Ground conditions can also be variable due to its heterogeneous properties and as investigation exploratory locations only allow examination of the ground at discrete locations. The potential exists for ground conditions to be encountered which are different to those considered in this report, particularly between exploratory holes. The extent of the limited area depends on the soil and groundwater conditions, together with other constraints such as the position of any existing structures and underground utilities. Geo-Environmental testing was carried out for a limited number of parameters [as stipulated in the contract] based on an understanding of the available operational and historical information, and it should not be inferred that other chemical species are not present.

The groundwater conditions entered on the exploratory hole records are those observed at the time of investigation. The groundwater level often has not had time to reach equilibrium and a monitoring period is required. Furthermore, groundwater levels are subject to seasonal variation or changes in local drainage conditions and higher groundwater levels may occur at other times of the year than were recorded during this investigation.

Any site drawings provided in this report are not meant to be an accurate base plan, but are preliminary and used to present the general relative locations of features on, and surrounding, the site.

