Phase 2 Site Investigation

Plots NT02, NT03 & NT04
Dantzic Street

Far East Consortium International Ltd



15/12/23 (Rev 5)

COMPLEX CHALLENGES ...
MADE SIMPLE

Phase 2 Site Investigation

Plots NT02, NT03 & NT04 Dantzic Street

Far East Consortium International Ltd

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1.0 Introduction

1.1 Background

1.1.1 RoC Consulting has been appointed by Far East Consortium International Ltd to conduct a Phase 2 Site Investigation across plots NT02, NT03 and NT04 (the site).

1.1.2 The site is divided into three development plots termed NT02, NT03 and NT04. These boundaries are indicated on Drawing 4328-ROC-ZZ-XX-DR-ES-ES200 presented in Appendix A. The site is also divided into three distinct areas based on current land uses: Plot NT02 (comprising two warehouse / light industrial type buildings with associated service yards and hardstanding), central plot NT03 (comprising a former yard, topsoil mound and a concrete batching plant in the northwest corner) and Plot NT04 (comprising a derelict plot of land partially covered in gravel and partially overgrown with trees and bushes). In this report 'the site' refers to all of the above areas.

1.1.3 It is understood that the site is to be developed with a mixture of high and medium rise residential buildings to heights of between 20 and 35 stories with smaller buildings varying in heights of between 4 and 8 storeys. The development is also anticipated to include small areas of soft landscaping, and a new access road passing between NT02 and NT03 and continuing to the east along the southern site boundary. The current proposed layout is presented in drawing RDB-MLA-2D-XX-DR-A-00110XXX presented in Appendix A. In the short-term Plot NT02 is also being used as a temporary event space.

1.1.4 The following Phase 2 Site Investigation assessment has been completed to support design and planning requirements for the site's redevelopment (Manchester City Council Planning app ref: ref: 136814/FO/2023). This updated report has been compiled to include additional phases of site investigation work undertaken in April and May 2023 (Phase 2e), September 2023 (Network Rail Mound) and October to November 2023 (Phase 2f). The scope of the Phase 2e works was approved by the Environment Agency following consultation on the findings of the Phase 2a investigation in their letter of 9th March 2023, presented in Appendix H. The scope of works of the Phase 2f works was discussed with the Environment Agency following consultation on the findings of the Phase 2e investigation completed by RoC Consulting and Outline Phase 3a Remediation Strategy completed by RSK Geosciences.

1.1.5 This report has been updated from a previous version (dated June 2023, Revision R4) to reflect the Phase 2f aspect of works and subsequent update of the Detailed Quantitative Risk Assessment (DQRA) for the site.

1.1.6 A number of previous studies and ground investigations have been completed at the site, as detailed below:

1) RoC Consulting, January 2023. Technical Note on Plot NT03 Network Rail Mound (ref. 4328-ROC-ZZ-XX-TN-ES-TN2)
2) RoC Consulting, January 2023. Phase 1 Desktop Study (ref: 4328-ROC-ZZ-XX-RP-ES-PH1DTS)
3) Phase 2 site investigation report, completed by RoC Consulting in October 2022 (ref. 4328-ROC-ZZ-XX-RP-ES-P2-101 Rev01). This report is superseded by the current document.
4) LK, March 2020. Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy, at Plot NT02 only (ref: CL-602-LKC 20 1060-01)

5) Allied Exploration & Geotechnics Ltd, March 2019. Northern Gateway Final Factual Report (Contract Number: NW1580)
6) Hydrock, December 2015. Ground Conditions Desk Study (ref: R/151819/G001)

1.1.7 In addition to the above ground investigation reports, the following supporting assessments have been completed in relation to ground contamination risks across the site.

1) RSK Geosciences, July 2023, Controlled Waters Detailed Quantitative Risk Assessment (ref: 11847 R01 (01)).
2) RSK Geosciences, August 2023, Outline Phase 3a Remediation Strategy (ref: 11834 R01 (00)).
3) RSK Geosciences, November 2023, Detailed Phase 3a Remediation Strategy, Plots NT02, NT03 & NT04 (ref: 11834 R02 (01)).

1.1.8 It is recommended reference be made to the abovementioned reports when reviewing the current assessment.

1.1.9 The scope of the report and its assessment has been based around the site redevelopment proposals as outlined in the aforementioned Architect's plans. It should be noted that any subsequent revision of the proposed redevelopment or site boundary away from the above-mentioned drawing may result in the full or partial re-interpretation of this report and assessment.

1.2 Terms of Reference

1.2.1 The Phase 2 Site Investigations contained within this report were carried out following receipt of an instruction from Far East Consortium International Ltd.

1.3 Limitations of Study Assessment

1.3.1 The report has been produced by RoC Consulting for the client solely for the purposes of a review (update) of information for the above-mentioned site. It may not be used by any person for any other purpose other than that specified without the express written permission of RoC Consulting. Any liability arising out of its use by a third party for purposes not wholly connected with the above shall be the responsibility of that party who shall indemnify RoC Consulting against all claims, costs, damages and losses arising out of such use.

1.3.2 This report is written in the context of an agreed scope of work (as described in the Section 4) and should not be used in a different context. The report should be read in its entirety, in conjunction with the previous works undertaken at the site Furthermore, new information, improved practices and changes in legislation may require re-interpretation of this report in whole or in part after its original issue. RoC Consulting reserve the right to alter their conclusions and recommendations in the light of further information that may become available.

1.3.3 Ground conditions can change rapidly, especially in areas of made ground, however, it is assumed that the ground conditions observed are typical and representative of the site as a whole. The ground conditions have been determined from a limited number of exploratory holes formed across the property, therefore, only a small percentage of the total area of the property has been investigated. Interpolation

between exploratory holes has enabled a general interpretative picture of the subsurface conditions to be produced.

1.3.4 Conclusions drawn from the ground investigation findings should be read in this context. RoC Consulting cannot accept responsibility for any situations resulting from locally unforeseen ground conditions occurring between exploratory holes.

1.3.5 RoC Consulting has exercised all reasonable due skill, care and diligence when collating the design and subsequent execution of ground investigation works. It should be noted we cannot anticipate the requirements and actions of the regulatory authorities when designing and implementing ground investigation works and, whilst thorough consideration has been given to all geo-environmental and geotechnical concerns; further additional fieldworks or assessments may be required at their request.

1.3.6 RoC Consulting cannot confirm that all ground conditions which may be uncovered during the works have been identified, rather this report is intended as an informative for use by experienced professionals and contractors.

1.3.7 Whilst the investigation and report has been scoped in accordance with our understanding of typical regulatory authority requirements, we cannot confirm that on submission regulators may require additional in-situ testing or investigation.

1.4 Objectives and Scope of Works of the Phase 2 investigations

Objectives

1.4.1 The RoC Consulting (January 2022) Phase 1 Desktop Study recommended that a programme of intrusive ground investigation be undertaken at the site; the main objectives of these works were to establish site wide ground conditions to support new building foundation and road design, as well as identify and delineate any sources of contamination that may be present on site.

1.4.2 A number of rounds of ground investigation works were completed across the site between April 2022 and November 2023 as outlined below:

- **"Phase 2a" investigations -** Completed across Plots NT02,03 and 04 during July and August 2022 to establish baseline conditions across the site, support new building foundation design; and target potential sources of ground contamination (as revealed during the Phase 1 Desktop Study).

- **"Phase 2e investigations"** – Comprising supplementary ground investigations across Plot NT02, completed during April and May 2023 to further assess the spatial extent of a suspected plume of Trichlorethylene contamination noted during the initial site investigation works.

- **"Network Rail mound investigations"** – Comprising the investigation of ground conditions across a mound feature partially forming the southern boundary of the Plot NT03 site to support the design of a new retaining structure during September 2023.

- **"Phase 2f investigation"** – Comprising the formation of deep targeted groundwater sampling wells across the Plot NT02 portion of the site during October and November 2023 to support the refinement of chlorinated solvent characterisation and remediation design.

1.4.3 An overview to the scope of works for each of these phases of ground investigation works is provided below. The current Phase 2 Site Investigation report captures and describes the results for all phases of ground investigation works completed across the site to date.

Phase 2a (initial) GI Scope of Work

1) Design a programme of site investigation works to establish ground conditions beneath the site and target known or suspected sources of contamination (as revealed by the Phase 1 desktop study).

2) Completion of site investigation field works including the formation of 10 rotary open hole and rotary cored boreholes to establish ground conditions, complete in situ strength tests and facilitate the installation of groundwater monitoring wells.

3) Completion of approximately 11 window sampler boreholes to support information obtained from rotary boreholes and target the investigation of potential sources of soil and groundwater contamination.

4) Completion of 16 machine excavated trial pits to further assess the quality of soils across the site, presence of obstructions and former structures, and infill information obtained from the aforementioned boreholes.

5) Completion of hand pitting and foundation exposures to investigate the Network Rail viaduct and retaining wall structures and foundations.

6) Completion of geo-environmental and geotechnical laboratory analysis of soil, water, and rock samples to determine physical and chemical characteristics.

7) Completion of a ground gas risk assessment to establish site conditions and, as required, the scope of any remedial measures required to control gas ingress.

8) Completion of a geotechnical assessment to support new building foundation design requirements.

9) Completion of a geo-environmental assessment utilising information provided by both the current and previous phases of site investigation works sufficient in its scope for submission to the relevant statutory authorities as well as identify the initial scope of any remedial works necessary to support the site redevelopment.

Phase 2e (supplementary) GI Scope of Work

1) Design a programme of supplementary site investigation works to assess concerns and data gaps during the Phase 2a GI works and engage with the Environment Agency to discuss scope of additional works. Of particular interest during these additional works was the further assessment of the nature and extent of the chlorinated solvent plume, identified during the Phase 2a works, and determination of the risks to affected receptors (primarily the principal aquifer but also the nearby watercourse).

2) Formation of 7 Rotary cored boreholes across the site to determine the structure and physical properties of the underling Triassic Sandstone bedrock (Principal Aquifer) and formations that exist beneath the site. The purpose of these boreholes was twofold, namely, to permit the installation of additional groundwater monitoring wells to permit further assessment of the site's hydrogeological regime; and to obtain specimens of rock core to permit physical strength testing as well as undertake in-situ SPT tests to support future foundation and engineering design requirements.

3) Formation of 11 targeted window sampler boreholes to complement information obtained from rotary bores and target / further delineate previously identified sources of contamination beneath the site.

4) Excavation of 9 machine excavated trial pits across Plots NT03 and 04 to increase spatial coverage of GI data in this area.

5) Investigate the foundation construction of the existing live railway viaduct that forms the sites southern boundary.

6) Complete contaminated land and ground gas investigations of un-investigated site areas, primarily Plot NT03 and further investigate the composition and quality of material stored within existing stockpile mounds present across this portion of the site.

7) Completion of additional groundwater and ground gas monitoring and testing to further assist with the characterisation of conditions beneath the site.

8) Investigation of site soils for waste assessment and earthworks design purposes.

9) Further geotechnical investigations of bedrock across Plots NT02-04 to further investigate the identified poor rock quality and incorporate further testing requests from piling contractors.

10) Completion of Detailed Quantitative Risk Assessment associated with a Chlorinated Solvent Plume identified beneath the southern and western portion of the site.

11) Review of all additional data from site works and subsequent laboratory analysis and update the associated geo-environmental and geotechnical assessments postulated within the initial RoC Consulting Phase 2a GI report.

1.4.4 The scope of works of the Network Rail mound SI are listed below.

Network Rail Mound Boreholes

1) Design a programme of works to facilitate access to the summit of the Network Rail (NR) mound to form dynamic sampling boreholes to investigate and characterise mound materials and feed into proposed retaining wall design.

2) Completion of enabling works to facilitate access to the summit of the NR mound by a civil engineering contractor.

3) Completion of 3 dynamic sampling boreholes through mound materials, underlying natural soils and into the underlying bedrock formation with requisite in-situ testing to assess soil quality and characteristics for subsequent environmental and geotechnical assessment of the Network Rail mound material.

4) Installation of 2 groundwater monitoring installations to assess quality of groundwater bodies underlying the mound.

5) Laboratory analysis of soil and rock samples to determine physical properties for geotechnical assessment.

6) Laboratory analysis of soil samples to determine chemical properties and inform subsequent waste assessment and contaminated land assessment.

7) Completion of additional groundwater testing to further assist with the characterisation of conditions beneath the NR mound.

8) Completion of Geo-environmental and Geotechnical assessment of mound materials for inclusion with the current Phase 2 site investigation report.

1.4.5 The scope of works of the Phase 2f site investigations are listed below.

Phase 2f site investigations

1) Design a programme of supplementary site investigation works to refine and increase the robustness of the Conceptual Site Model and hydrogeological model for the site.

2) Of particular interest during these additional works was the further assessment of the extent of the chlorinated solvent plume, in particular the presence of DNAPL at the base of the Chester Formation perched above the underlying lower permeability Manchester Marl Formation.

3) Formation of 5 rotary open hole and rotary cored boreholes across the site to the underlying Triassic Sandstone bedrock (Principal Aquifer) and Manchester Marls Formation (Secondary B Aquifer). The purpose of these boreholes was to permit the installation of additional groundwater monitoring wells into the Chester Formations. Two of the boreholes were installed with dual monitoring wells with deeper wells sealed into the top 2 to 3 metres of the Manchester Marls formation. This facilitated the collection of additional water samples to assess if any migration of chlorinated solvents into the Manchester Marl Formation had occurred.

4) Completion of additional groundwater monitoring and testing to further assist with the characterisation of conditions beneath the site.

5) Update of Detailed Quantitative Risk Assessment associated with the chlorinated solvent plume identified beneath the southern and western portion of the site.

6) Review of all additional data from site works and subsequent laboratory analysis and update the associated geo-environmental assessments postulated within initial RoC Consulting Phase 2 GI report.

2.0 Background Information

2.0.1 The overview below outlines the most salient points and considerations, and it is recommended reference be made to the complete findings of previous site investigation reports for additional information and/or clarification.

2.1 Site Description

2.1.1 The site comprises an area of approximately 2.3 hectares, located to the south of Dantzic Street in Manchester and is centred at National Grid Reference E384690, N399470.

2.1.2 The site can be divided into three areas based on proposed plot boundaries; the western land parcel referred to as “Plot NT02”, the central parcel referred to as “Plot NT03” and the eastern parcel referred to as “Plot NT04”. Drawing 4328-ROC-ZZ-XX-DR-ES-ES200 provided within Appendix A provides an indication of the site subdivision. In this report ‘the site’ refers to all of the above areas except where specifically describing conditions or characteristics specific to each area.

Plot NT02

2.1.3 Plot NT02 comprises two light industrial buildings, associated access roads and areas of hardstanding. The boundaries of the plot are formed by Dantzic Street to the north with a former caravan park beyond, the adjacent Victoria Riverside development to the west, a road and Network Rail viaduct to the south and Plot NT03 to the east. It is believed that the northern industrial building was occupied by Farlam Waste Management a skip hire and waste handling company whose operations extended onto Plot NT03. The southern light industrial building was operated by Astra Signs Ltd; a sign making company.

2.1.4 The topography of the Plot NT02 is relatively flat with levels varying between 31.20mAOD at the interface with Dantzic Street and 34.80mAOD in the southern portion of the site. Plot NT02 is accessed from the east through a gate leading from Dantzic Street onto Plot NT03.

Plot NT03

2.1.5 The west portion of Plot NT03 comprises largely of hardstanding with a gate providing vehicular access in the northwest from Dantzic Street. There is a central roadway oriented roughly north to south from Dantzic Street allowing an alternative access route. To the south-west of this central roadway is the former Farlam Waste Management Ltd facility; a skip hire and waste handling facility. The former Ryan Topsoil Ltd land is located to the east of this roadway with some smaller stockpiles of loose, topsoil-like material left in place from a former large soil mound which was removed from site in early 2023.

2.1.6 The south-eastern part of Plot NT03 is owned by Network Rail and is occupied by a soil mound built up against the Network Rail Viaduct (along the southern boundary of the site). The summit of the mound is covered with vegetation, and it is currently unclear if this slope provides support to the viaduct structure or what structures may be behind it.

2.1.7 A small portion of the north of this plot, also covered with hardstanding, is fenced off from the remainder of the plot and accessed separately, also from Dantzic Street. At the time of writing, this was occupied by a concrete batching plant.

2.1.8 Levels on the Plot NT03 vary significantly due to the presence of the Network Rail mound in the southeast which rises to 45.65mAOD at its peak and sloping to 33.27mAOD at its base in the centre of the plot. The hardstanding working area to the west and extending from the base of the mound to the northern boundary, varies in elevation from 35.29 in the southwest to 31.42mAOD in the northwest.

Plot NT04

2.1.9 Plot NT04 is comprised of semi vegetated disused land. The southern boundary is formed by the Network Rail Viaduct. Dantzic Street and Dalton Street form the northern boundary with a disused warehouse and the River Irk beyond. The eastern boundary is formed by Dalton Street and residential housing. During the site walkover relic walls of a former structure were encountered in the northern portion of the plot, likely part of the historic Dalton Print Works. Parts of the south of the plot are covered with coarse limestone gravel, with areas in the southwest surface with concrete.

2.1.10 Levels in this plot fall from east (41.62mAOD) to west (31.56mAOD) with a slope separating the eastern and western portions of the site.

2.1.11 The lower level of Plot NT04 is accessed via a gate onto Dantzic Street which enters Plot NT03. The upper level of Plot NT04 is accessed via a gate onto Dalton Street in the east of the plot.

Adjacent Sites

2.1.12 The site is bound to the north by Dantzic Street and Dalton Street, to the west by the construction site for the Victoria Riverside development (currently under construction) and to the south and east by the Railway Viaduct, up to 10m above the site in some locations. This incorporates both track and areas of sidings. The viaduct wall is comprised primarily of brick where exposed, with different sections visibly constructed at different times.

2.1.13 Beyond Dantzic Street to the north is an area occupied by caravans and a brick commercial building formerly occupied by Theos Timber and currently in use by contractors associated with the Victoria Riverside development. Beyond this is the River Irk, a small river which is in a visibly poor condition with large amounts of rubbish present on the riverbank (located approximately 20m to the north of the site boundary).

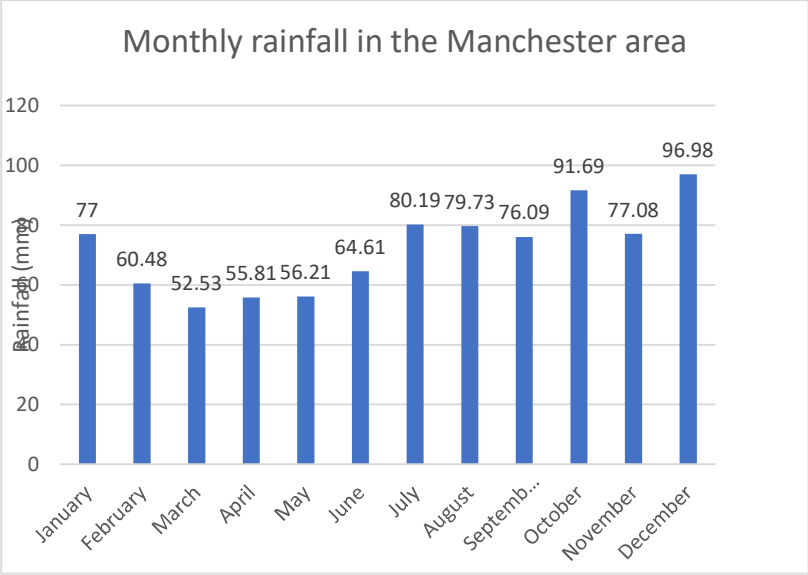
2.1.14 Further land uses within the immediate vicinity include a mixture of railway land, scrapyards, construction sites, car parking and residential housing.

2.2 Published Geology, Hydrology and Hydrogeology

2.2.1 In the following, the review of publicly available climate, hydrology, geology and hydrogeology records are presented.

2.2.2 For the climate period 1991-2000, the annual rainfall at the Woodford station is estimated 864.40mm/yr (https://www.metoffice.gov.uk/research/climate/maps-and-data/uk-climate-averages/gcqrqyr80). The monthly rainfall data is summarised in the Table and chart below.

Month	Rainfall (mm)	Days of rainfall ≥1 mm (days)
January	77	14.73
February	60.48	12.21
March	52.53	11.81
April	55.81	10.96
May	56.21	10.84
June	64.61	11.96
July	80.19	13.17
August	79.73	13.6
September	76.09	11.96
October	91.69	14.51
November	77.08	15.04
December	96.98	15.7
Annual	868.4	156.49



2.2.3 The nearest surface water feature is indicated 21m to the north in the form of the River Irk. Water quality of this receptor indicates a GQA Grade of "E" (Poor) and a flow rate of less than 2.5 cumecs. There are no active surface water abstractions at the site or within 500m of the site boundary.

2.2.4 The BGS geological map indicate the site is underlain by the following Formations:

Drift Geology: Till, Devensian – Diamicton

Solid Geology: The western portion of the site is underlain by the Chester Formation (BGS Lexicon CHES, Sandstone, Lower Triassic)) and the eastern portion of the site is underlain by the Manchester Marls Formation (Mudstone, Upper Permian). The Manchester Marls Formation (BGS Lexicon MM) underlies the Chester Formation where this is present on site. The Manchester Marls Formation is underlain by the Collyhurst Sandstone Formation (BGS Lexicon CS; Lower Permian) at depth, which is in turn underlain by the Pennine Middle Coal Measures (Carboniferous, Westphalian).

Structural Geology: the BGS bedrock map shows a fault on the eastern part of the site, with an NNW-SSE strike, putting into contact the Chester Fm (Lower Trias) with the Manchester Marls (Upper Permian). and the Collyhurst Fm (Lower Permian).

2.2.5 The Envirocheck Groundwater Vulnerability Map indicates the superficial deposits (Till) are classified as **Secondary Undifferentiated Aquifer** with the underlying Chester Formation bedrock designated as a **Principal Aquifer** and the Manchester Marls designated as a **Secondary B Aquifer**.

2.2.6 The site is not located within any Environment Agency Source Protection Zones or close proximity to any sensitive water abstraction points (e.g., potable water supply well). The nearest water abstraction point is indicated 533m to the west relating to Joseph Holt Ltd. Water is abstracted from groundwater for use in breweries/wine process water, it is not clear if the permit is still valid. Site specific hydrogeology is detailed in Section 6.3.

2.2.7 The Envirocheck report included within Appendix C of the RoC Consulting Phase 1 Desk Study, indicated that the site is located within an area which may be affected by historic Coal Mining, with bedrock of the Pennine Middle Coal Measures present at depth beneath the site. We anticipate these to be located at a depth of approximately 100m beneath the site with approximately 150m further depth of rock above any potentially viable coal seams. The coal seams beneath the site are also separated from any likely workings by faulting. As such, further investigation of mining related risks has not been undertaken.

2.2.8 According to the environmental database search, the site is located within a lower probability radon area (less than 1% of homes are estimated to be at or above the action level). Radon protection measures are not required for new dwellings.

2.3 Site History and Environmental Characteristics

2.3.1 The site has accommodated a number of industrial land uses in the past. The history of each individual plot is summarised below.

Plot NT02

2.3.1 The Victoria Screw and Bolt works was present in the southern portion of this plot on records dating from 1891 and was extended to incorporate the former Victoria Paint Works in 1908 covering the entirety of the southern portion of the Plot NT02. The Victoria Paint works itself is indicated as being present between 1891 and 1908. Records dated 1948 to 1952 shows the paint works to have been converted to the Collyhurst Foundry up until some point between 1958 to 1968 when much of the building was demolished and a Tripe Works was constructed within its general footprint.

2.3.2 Records from 1958 to 1989 shows the construction of a light industrial / warehousing buildings across the majority of the plot which became a part of the rubber works which had previously only operated adjacent the sites western boundary. Buildings in the north of Plot NT02 are no longer shown in an aerial photograph dated 2000. Mapping dating from 2006 indicates much of this structure to have been demolished and only the present-day light industrial building and a smaller building along the northern boundary of the Plot NT02 (now also demolished). The light industrial building is known to have previously been occupied by Astra Signs Ltd (a sign manufacturer) and is believed to have used solvents and paints although the previous Hydrock report states that the paints used on site were water based and therefore likely had low contaminative potential.

Plot NT03

2.3.3 The Victoria Screw and Bolt works was present in the southwest portion of the site (extending from Plot NT02 to the west) on records dating from 1891 until circa 1948-1952 when it became the Collyhurst Foundry up until some point between 1958 to 1968 when the building was demolished. A chimney was present in the southwest corner of the site, likely associated with the bolt works, from 1891 to circa 1970 when it was replaced with an Asphalt Works. An unspecified building is located in the central-east portion of the site recorded on maps dated 1891 to mid 1990's labelled as a scrap metal works and later a 'works'.

2.3.4 The site is largely vacant, is mostly occupied by derelict urban land with surfacing a mixture of concrete, hardcore and processed anthropogenic materials associated with the removal of the soil mound (which was removed from the site by Ryan Topsoil before the site was vacated and should not be confused with the Network Rail Mound which is still present in the south of the site).

2.3.5 A waste management company known as Farlam Waste Management is known to have operated in the north and eastern portion of this plot, only having ceased operation within the past decade; anecdotal evidence from discussions on site with excavator operatives indicate the southern portion of the Plot NT03 was also used as a yard for construction plant.

2.3.6 A small area of the southern boundary of the Plot NT03 was previously occupied by a signal box on an embankment adjacent the railway viaduct. It is not clear from historical records if there is a retaining wall which supports the viaduct in this location or if the viaduct is supported by the embankment which is visible on historic plans and aerial photography and still present today.

Plot NT04

2.3.7 Dalton Works (a print works) was present in this plot from 1891 until it was demolished on records dating from 2013. It occupied the southern area of the site and a small area adjacent Dalton Street sitting at a slightly elevated position to the rest of the site. Relic retaining walls appear to be present in the vicinity of the former works in the present day.

Adjacent Historical Land Uses

2.3.8 The site is located within an area of the city which has seen heavy industrial land use in the past. The most significant historic industrial land uses in close vicinity to the site are summarised below.

2.3.9 The Lancashire and Yorkshire Railway has been present adjacent the sites southern boundary from 1848 till the present day. In 1891 the Newtown sidings were added bringing the railway right up against the site's southern boundary.

2.3.10 The Rochdale Road Gasworks is visible as early as 1848, 50m to the south of the site comprising four large gasometers and significant associated infrastructure at its peak. Two gasometers associated with the gasworks were present 10m to the north of the site on the opposite side of Dantzic Street from the site. The extent of the gasworks declined during the mid-20th century before being converted to a depot in the late 20th century. The two gasometers to the north of the site were demolished in the mid to late 20th century and have since been occupied by caravans.

2.3.11 A garage / depot was located 10m to the north of the site from the mid-20th century and is believed to have most recently been used as a timber merchants.

2.3.12 Within 200m of the west of the site, a number of historic industrial activities were recorded including a rubber works, oil works, chemical works, print works, foundry, engineering works, glue works, timber yards, scrap yards and a large iron works. The vast majority of this industry is no longer present and has been replaced by alternative land uses such as car parking. It should be noted much of this industry is a considerable distance from the site and superficial ground conditions are relatively impermeable, furthermore a number of these industries were located on the other side of the River Irk which would also serve as a boundary to contaminants migration.

2.3.13 There is a single BGS recorded Landfill Site present 330m to the north of the site. There are three historic landfill sites located within 500m of the site with the closest being located 205m to the north of the site. There are three Registered Waste Transfer Sites located within 500m of the site. The closest of which is located 82m to the west of the site. The licence holder for this site is Placemix Ltd and is operational as far as is known. There are no further waste facilities located within 500m of the site.

2.3.14 There are two Licensed Waste Management Facility located on site. The first is located within the eastern portion of Plot NT02 the license for which expired in 2020 and was operated by Farlam Waste Management Ltd. The second facility is located on Plot NT03 and, the license is listed as transferred and it was operated by Ryan John. Both facilities are categorised as Household, Commercial and Industrial Transfer Stations. There are a further 3 Licensed Waste Management Facilities located within 500m of the site however all licenses are shown as expired. There are a further three waste management facilities within 500m of the site.

2.3.15 A small area of the northern portion of the site is located in Flood Zone 2, the remainder of the site is located in Flood Zone 1. The risk of pluvial flooding is deemed as very low.

2.4 Previous Environmental Assessment

2.4.1 Findings of the site investigation work carried out to-date by RoC Consulting in 2022 and 2023 (Phase 2a, Network Rail Mound Investigation, Phase 2e and Phase 2f) are incorporated into this report. The findings of the LK Consult Phase II Site Investigation (2020), carried out in the Plot NT02 of the site are summarised below. The location of the exploratory holes is illustrated in Drawing 4328-ROC-ZZ-XX-DR-ES-ES201.

2.4.2 Results from chemical testing undertaken by LK Consult revealed the following issues in the Plot NT02 regarding contamination:

- Elevated levels of Heavy Metals (Lead) in soil at WS104, SP1 and SP2 (Likely associated with ash, clinker and coal noted within made ground deposits)
- Trace amounts of asbestos in soil at TP105 and SP1 (Likely associated with the demolition of historic buildings)
- Elevated levels of PAHs - Benzo(a)pyrene and Naphthalene in soil at WS102, WS103, WS105, TP103, TP105 SP1 and WS205 (Likely associated with ash, clinker and coal noted within made ground deposits)
- Elevated levels of TPH – Aliphatic C12-C16, Aromatic C8-C10 and Aromatic C10-C12 in soil at WS205 (beneath the light industrial building and likely associated with the numerous historic industrial activities in this area of the site)
- Elevated levels of VOCs/SVOCs – Benzene and Trichloroethene in made ground and superficial deposits at WS205, WS201, WS202 and WS204. PID readings in the southwest of the plot also indicate the presence of volatile contamination with readings between 4.3ppm and 207ppm (Likely associated with the historic industrial activity in this area of the site); and
- Elevated concentrations of contaminants in groundwater including Vinyl chloride at RBH101 and Trichloroethene in RBH103. The report hypothesizes these may be linked to historic industrial activity on site or a result of historic industry across the wider area, such as the former gasworks.

2.4.3 Ground gas monitoring visits were undertaken on a total of seven wells. Slightly elevated levels of carbon dioxide were encountered with an absence of methane, carbon monoxide and hydrogen sulphide gases. Slightly depleted levels of oxygen were also encountered. The site was characterised as a Characteristic Situation 1 with no remedial measures envisaged.

2.4.4 On site soil and groundwater contamination encountered was believed to relate to previous industrial operations as well as the potential movement of gas works era contamination within the underlying principal aquifer beneath the site. A defined area of contamination was suspected in the southern and western portion of the plot beneath the existing building.

2.4.5 The report recommended that an area of contaminated soils, in the southwest of the Plot NT02, should be excavated and either treated onsite or disposed of offsite. The use of a soil cover system was

recommended in soft landscaping areas. Although exceedances of contaminants in groundwater were recorded, groundwater remediation was not recommended.

3.0 Site Investigation Design

Phase 2a – Initial Ground Investigation Works

3.0.1 The first phase of intrusive investigation (Phase 2a) was designed and completed to further investigate geo-environmental issues identified during the Phase 1 Desktop Study and previous site investigations; as well as provide geotechnical information to facilitate new building design.

3.0.2 The site investigation works comprised the formation of nine rotary open hole and cored boreholes to a maximum depth of 25.00mbgl, 11 window sampler boreholes to a maximum depth of 5.00mbgl and 14 machine excavated trial pits to a maximum depth of 4.00mbgl.

3.0.3 Exploratory hole placement was dictated by the findings of the Phase 1 Desktop Study to zone-in on areas where current / previous industrial activity may have impacted soil quality. In addition, boreholes and trial pits were located within the footprint of the proposed new development to establish ground conditions and support foundation design.

3.0.4 Samples of soil collected during the investigation works were analysed for a variety of determinants associated with the pattern of current / historic industrial activity across the site, as outlined within the preliminary conceptual site model.

3.0.5 Table 3.0 provided below provides location justification for each exploratory hole formed during the site investigation fieldworks. The purposes of this table are to illustrate the targeting of potential sources of contamination during the Phase 2 site investigation works.

Table 3.0: Borehole Locations & Justification

BH/WS ID	Reason for selection
RBH201	Assess groundwater quality in north-western corner of Plot NT02.
RBH202	Provide geotechnical information in the vicinity of proposed building and assess groundwater quality on Plot NT02.
RBH203	Assess groundwater quality in area of previously identified groundwater contamination. Provide geotechnical information in the vicinity of proposed high-rise buildings.
RBH205	Assess groundwater quality in the northern portion of Plots NT03/NT04.
RBH206	Assess groundwater quality in the northern portion of Plot NT03 and provide geotechnical information in the vicinity of proposed building.
RBH207	Assess groundwater quality in the northern portion of Plot NT04.
RBH208	Assess groundwater quality in the western portion of Plot NT04 and provide geotechnical information in the vicinity of proposed building.
RBH209	Assess groundwater quality in the centre of Plot NT04 and provide geotechnical information in the vicinity of proposed hi-rise building.
RBH210	Assess groundwater quality in the eastern portion of Plot NT04 and provide geotechnical information in the vicinity of proposed hi-rise building.
WS201	Establish ground conditions and assess area of previously identified contamination.
WS202	Establish ground conditions and assess area of previously identified contamination. Install ground gas monitoring well.
WS203	Establish ground conditions and assess area of previously identified contamination. Install ground gas monitoring well.
WS204	Establish ground conditions and assess area of previously identified contamination. Install ground gas monitoring well.
WS205	Establish ground conditions and assess area of previously identified

BH/WS ID	Reason for selection
	contamination.
WS208	Establish ground conditions and install ground gas monitoring well.
WS209	Establish ground conditions and install ground gas monitoring well.
WS210	Establish ground conditions.
WS211	Establish ground conditions and install ground gas monitoring well.
WS212	Establish ground conditions.
WS213	Establish ground conditions and install ground gas monitoring well.
TP201	Establish ground conditions and investigate area of historic tank.
TP202	Establish ground conditions and investigate area of previously identified contamination.
TP203	Establish ground conditions.
TP204	Establish ground conditions.
TP207	Establish ground conditions.
TP208	Establish ground conditions and foundation exposure along Network Rail viaduct.
TP213	Establish ground conditions.
TP214	Establish ground conditions.
TP215	Establish ground conditions.
TP216	Establish ground conditions.
TP217	Establish ground conditions.
TP218	Establish ground conditions.
TP219	Establish ground conditions.
TP220	Establish ground conditions and foundation exposure along Network Rail viaduct.

3.0.6 It should be noted that, at the time of the original RoC Consulting SI works, one of the major proposed buildings in Plot NT03 was located in a then inaccessible area of the site, beneath a topsoil mound and could not be directly investigated as part of this phase of the works.

3.0.7 Exploratory hole locations are shown on RoC Consulting drawing 4328-ROC-ZZ-XX-DR-ES-ES201B provided within Appendix A.

Phase 2e – Supplementary Ground Investigation Works

3.0.8 The second phase of intrusive investigation works (Phase 2e) was designed to achieve the objectives stated in Section 1.4 and address outstanding data gaps listed in section 3.0.10, following the works in August 2022.

3.0.9 These supplementary works comprised the following:

- Formation of 7 rotary boreholes across the site to a maximum depth of 30.00m
- Formation of 12 window sample boreholes across the site to a maximum depth of 5.00m
- Excavation of 9 trial pits in Plot NT03 and NT04
- Investigation of the viaduct foundation in Plot NT03 and acquisition of soil samples from earth mounds remaining onsite
- Groundwater, ground gas, and soil vapour monitoring and sampling

3.0.10 Exploratory hole placement was dictated by the findings of the previous Phase 1 and Phase 2 report to address outstanding data gaps. In particular these were:

1) Locate and delineate a potential plume of chlorinated solvent contamination in the southern warehouse of NT02.

2) Install additional groundwater monitoring wells across plots NT02 and NT03 to obtain further samples of groundwater from the Principal Aquifer in the Chester Formation, for the purpose of environmental assessment.

3) Complete Phase 2 contaminated land and ground gas investigations of un-investigated site areas, primarily Plot NT03.

4) Obtain samples of soil from mounds and ground at the site for the purposes of waste assessment and earthworks design.

5) Further geotechnical investigations of bedrock across Plots NT02-4 to further investigate the identified poor rock quality and incorporate further testing requests from piling contractors.

3.0.11 Access to portions of the site was limited during the supplementary phase of ground investigation works. These limitations relate to a "Meanwhile" use currently in operation across the central portion of Plot NT02 and Plot NT03, comprising a pop-up event space. The formation of boreholes within this portion of the site was impacted as a result as only limited works where possible in this area. This limitation has had an impact on further investigation and delineation of the aforementioned chlorinated solvent plume suspected to be present this area.

3.0.12 Samples of soil collected during the investigation works were to be analysed for a variety of determinants associated with the pattern of current / historic industrial activity across the site as outlined within the preliminary conceptual site model.

3.0.13 Investigation of the foundations of the Network Rail viaduct to the south of the site, including potential for the NR mound to the rear of NT03 to offer support to the railway.

3.0.14 The Table 3.1 provided below provides location justification for each exploratory hole formed during the Phase 2e site investigation fieldworks.

Table 3.1: Phase 2e GI: Borehole Locations & Justification

Location ID	Reason for selection
RBH301	Permit additional hydrogeological assessment & groundwater testing
RBH302	
RBH303	
RBH304	As RBH301-3 & to provide further geotechnical information (retaining wall and piling)
RBH305	
RBH306	
RBH307	Geotechnical (at request of piling contractor)
WS301	Plot NT02 VOC Soil plume contamination delineation, vapour monitoring

Location ID	Reason for selection
WS302	Plot NT02 VOC Soil plume contamination delineation
WS303	Plot NT02 Soil contamination delineation, vapour monitoring
WS304	Plot NT02 VOC Soil plume contamination delineation
WS305	
WS306	
WS307	
WS308	
WS308a	Plot NT02 Soil contamination delineation (replacement for aborted WS308)
WS309	Plot NT02 Soil contamination delineation, vapour monitoring
WS310	NT03 site coverage and monitoring
WS311	NT03 site coverage and monitoring
WS312	NT03 site coverage and monitoring
TP301	NT03 site coverage
TP302	NT03 site coverage
TP304	NT04 sampling for waste and earthworks grading
TP305	NT03 site coverage
TP306	NT04 sampling for waste and earthworks grading
TP307	NT03 site coverage
TP308	NT03 site coverage
TP309	NT03 site coverage
TP310	NT03 site coverage
MP301	Mound sampling for waste and earthworks grading
MP302	Mound sampling for waste and earthworks grading
MP303	Mound sampling for waste and earthworks grading
MP304	Mound sampling for waste and earthworks grading
HP301	Network Rail Mound sampling for waste and earthworks grading

3.0.15 Phase 2e exploratory hole locations are shown on RoC Consulting drawing 4328-ROC-ZZ-XX-DR-ES-ES201C provided within Appendix A.

Network Rail (NR) Mound Investigation Works

3.0.16 Additional investigation works were designed to achieve the objectives stated in Section 1.4.5 The works comprised the following:

- 3 Dynamic sample boreholes and 2 rotary follow on boreholes to a maximum depth of 21.00mbgl.

3.0.17 Exploratory hole placement was dictated by the location of the proposed retaining wall and constraints present on the Network Rail mound. A new access ramp was created by civil engineering contractors Adana Construction at a gradient of 5:1 to allow the rotary drilling rig to traverse to the summit of the mound.

3.0.18 Samples of soil collected during the investigation works were analysed for a variety of determinants associated with the pattern of current / historic industrial activity across the site, as outlined within the preliminary conceptual site model.

3.0.19 NR mound borehole locations are shown on drawing 4328-ROC-ZZ-XX-DR-ES-ES201D.

Phase 2f – Additional TCE Investigation

3.0.20 Additional investigation works were designed to achieve the objectives stated in Section 1.4.5 The works comprised the following:

- 5 Dynamic sample boreholes with follow on rotary open hole and rotary coring boreholes to a maximum depth of 20.50mbgl.

3.0.21 Exploratory hole placement was dictated by the findings of the previous Phase 1 and Phase 2 report to address outstanding data gaps. In particular these were:

1) Install additional groundwater monitoring wells across plots NT02 and NT03 to obtain further samples of groundwater from the Principal Aquifer in the Chester Formation, for the purpose of environmental assessment.

2) Establish the presence of any DNAPL at the base of the Chester Formation sitting above the underlying lower permeability Manchester Marl Formation.

3) Establish the presence of any VOCs within the shallow Manchester Marls.

4) Further refine the hydrogeological model of the site through additional groundwater monitoring works.

5) Complete additional hydraulic conductivity testing within the Chester Formation to refine “k” values for use within the DQRA model.

3.0.22 Access to portions of the site were limited during this phase of ground investigation works. These limitations relate to a “Meanwhile” use currently in operation across the central portion of the Plot NT02 site, comprising a pop-up event space.

3.0.23 Samples of soil collected during the investigation works were analysed for a variety of determinants associated with the pattern of current / historic industrial activity across the site, as outlined within the preliminary conceptual site model.

3.0.24 The Table 3.2 provided below provides location justification for each exploratory hole formed during the Phase 2f site investigation fieldworks.

Table 3.2: Phase 2f GI: Borehole Locations & Justification

Location ID	Reason for selection
RBH501	Located within SE corner of the southern warehouse to assess presence of TCE plume in east of Plot NT02
RBH502	Located within NW corner of the southern warehouse to assess presence of TCE plume on western boundary of Plot NT02.
RBH503	To infill deep ground model data and hydrogeological conditions in the Chester Formation
RBH504	To delineate eastern extent of TCE plume within Plot NT03
RBH505	To replace lost monitoring well at RBH201

3.0.25 Phase 2f borehole locations are shown on RoC Consulting Drawing 4328-ROC-ZZ-XX-DR-ES-ES201C.

4.0 Site Investigation Fieldworks and Laboratory Testing

General

4.0.1 The first phase of site investigation fieldworks (Phase 2a) was completed between the 11th July and the 15th August 2022 with the Phase 2e supplementary investigation undertaken between the 2nd April and 25th April 2023. The NR mound boreholes and associated enabling works were completed between the 11th and 21st September 2023 and Phase 2f works were completed between the 30th October and 9th November 2023.

4.0.2 In the first phase of work drilling was completed by contractors DMW Drilling Ltd. Rotary open hole and cored boreholes were formed using a Massenza MI3 and window sample boreholes were formed with a Competitor 150. In Phase 2e, rotary boreholes were completed by MT Geoservices using a Beretta T44 and window sample boreholes were formed with a Premier 110. The NR mound boreholes were completed by MT Geoservices using a Beretta T44. The Phase 2f works were completed by Central Alliance using a Comacchio 300 and a Fraste PLC.

4.0.3 Prior to excavation, RoC Consulting methodology for service avoidance, G5.15, was applied. This methodology includes:

- Consultation of existing statutory undertakers plans of services
- Consultation of service drawings provided to us by the client or site operator
- Completion of location specific GPR clearance where applicable
- Opening of nearby service covers
- CAT and Genny scanning
- Excavation of 1.20m hand dug service avoidance pit in advance of borehole drilling
- Recording of these checks through location specific Permits To Dig.

4.0.4 Records of equipment calibration are presented in Appendix F. RoC Consulting operatives all hold current qualifications for the use of such equipment.

4.0.5 To ensure that no new sources of contamination were introduced or mobilised to underlying soils / bedrock during the formation of each borehole, we have adopted safe drilling techniques for ground investigation in all instances. These methods include but are not limited to:

- Use of steel casing and vegetable oil as a lubrication medium
- Formation of impermeable bentonite seals in borehole wells during drilling
- Formation of impermeable bentonite seals to the tops and bottoms of response zones in installed monitoring wells
- Reinstatement of boreholes without monitoring wells with bentonite
- Cleaning of sampling equipment to reduce cross contamination
- Dual pipe monitoring wells have not been installed

4.0.6 We consider that the employment of these above methods keeps the likelihood of contamination disturbance as low as reasonably practicable, although it is not possible to wholly remove the possibility of such occurrences.

4.0.7 Soil and rock core samples were collected for subsequent chemical and geotechnical laboratory analysis. Soil samples used for geotechnical analysis were collected in 1kg plastic sample tubs. Samples collected for chemical testing were collected in 1kg plastic sample tubs, 258g glass jars and 60g glass jars.

4.0.8 Samples were obtained from both made ground and natural strata to assess the overall quality of underlying soils. In-situ soil strength was calculated using Standard Penetration Tests (SPT) within superficial deposits; SPTs also allowed to confirm rockhead had been reached by refusal.

4.0.9 The soils and rocks encountered during construction of the boreholes were described and logged by a suitably qualified engineer in accordance with BS 5930: Code of Practice for Site Investigations (the log sheets for which have been provided within Appendix B).

4.0.10 Ground gas and groundwater monitoring wells were installed within rotary and window sampler boreholes. Monitoring wells from LK and RoC previous site investigations were also monitored. Installation details are provided within Table 5.0 below, copies of ground water and gas monitoring records are provided within Appendix E. Drawing 4328-ROC-ZZ-XX-DR-ES-ES202 shows the locations of all boreholes installed with gas and groundwater monitoring wells.

Table 4.0: Monitoring Well Installations

BH ID	Monitoring Well Depth (mbgl)	Response Zone (mbgl)	Response Zone Strata
Recommissioned and used from previous LK Site investigations			
LK RBH1	15.00	5.00 to 15.00	Chester Formation
LK RBH3	20.00	5.00 to 20.00	Chester Formation / Manchester Marls
LK WS103	3.00	1.00 to 3.00	Made Ground / Devensian Till
LK WS105b	3.00	1.00 to 3.00	Made Ground / Devensian Till / Chester Formation
LK WS201	3.00	1.00 to 3.00	Devensian Till
Phase 2a - 2022 RoC Site Investigation			
RBH201	25.00	21.00 to 25.00	Manchester Marls Formation
RBH202	25.00	21.00 to 25.00	Manchester Marls Formation
RBH203	15.00	10.00 to 15.00	Chester Formation
RBH205	25.00	20.00 to 25.00	Manchester Marls Formation
RBH206	25.00	21.00 to 25.00	Manchester Marls Formation
RBH207	25.00	20.00 to 25.00	Manchester Marls Formation
RBH208	24.00	19.00 to 24.00	Manchester Marls Formation
RBH209	17.00	12.00 to 17.00	Manchester Marls Formation
RBH210	25.00	20.00 to 25.00	Manchester Marls Formation
WS202	1.50	1.00 to 1.50	Made Ground

BH ID	Monitoring Well Depth (mbgl)	Response Zone (mbgl)	Response Zone Strata
WS203	1.00	0.50 to 1.00	
WS204	1.50	0.50 to 1.50	
WS208	1.00	0.50 to 1.00	
WS209	1.50	0.50 to 1.50	
WS211	1.00	0.50 to 1.00	
WS213	1.00	0.50 to 1.00	
Phase 2e - 2023 RoC Site Investigation			
RBH301	10.00	4.00 to 10.00	Chester Formation
RBH302	12.00	5.00 to 12.00	Chester Formation
RBH303	10.00	5.00 to 10.00	Chester Formation
RBH304	9.00	5.00 to 9.00	River Terrace Deposits
RBH305	9.00	5.00 to 9.00	Chester Formation
RBH306	11.00	9.00 to 11.00	Manchester Marls Formation
RBH307	20.00	9.00 to 20.00	Manchester Marls Formation
NR Mound Boreholes – 2023 RoC Site Investigation			
RBH401	16.50	11.50 to 16.50	River Terrace Deposits
RBH403	16.50	11.50 to 16.50	River Terrace Deposits
Phase 2f – 2023 RoC Site Investigation			
RBH501	11.80	4.50 to 15.00	Chester Formation
RBH502 (P1)	18.30	5.50 to 18.30	Chester Formation
RBH502 (P2)	20.30	19.30 to 20.30	Manchester Marls Formation
RBH503	10.00	5.00 to 10.00	Chester Formation
RBH504	11.95	4.50 to 11.95	Chester Formation
RBH505 (P1)	11.80	4.50 to 11.80	Chester Formation
RBH505 (P2)	14.50	13.00 to 14.50	Manchester Marls Formation

4.1 Below Ground Obstructions

4.1.1 A number of obstructions and constraints were encountered during the site investigation works on Plots NT02, NT03 and NT04 and are detailed in the tables below. The results indicate that, as typical for a brownfield site of this type, numerous buried obstructions and structures should be anticipated.

Table 4.1: Below Ground Obstructions, Plot NT02

BH ID	Depth		Notes and observations
	mbgl	mAOD	
RBH203	1.20	32.39	Concrete obstruction.
TP202	0.25 to 1.50	33.35 to 32.10	Concrete structure in northern face of trial pit.
WS201	0.30	31.14	Cobblestone block likely associated with historic street / yard.
WS307	0.50	33.10	Borehole aborted on unknown concrete obstruction.
WS308	0.40	33.20	Borehole aborted on unknown concrete obstruction.
RBH501	0.25 to 0.60	33.34 to 32.99	Red brick structure, suspected remnant historic structural feature.
RBH502	1.80 to 2.50	31.79 to 31.09	Concrete obstruction, suspected relic slab / footing.
RBH503	0.60 to 0.80	31.05 to 30.85	Asphalt, suspected historic roadway / car park
RBH505	0.40 to 0.55	31.01 to 30.86	Asphalt, suspected historic roadway / car park

Table 4.2: Below Ground Obstructions, Plot NT03

BH ID	Depth		Notes and observations
	mbgl	mAOD	
TP207	0.80 1.00	32.50 32.30	Small diameter Alkathene water supply pipe Clay Drainage Pipe
WS205	0.60	33.81	Metal pipe encountered within handpit likely associated with historic building.
TP308	0.40	32.84	Brick structure across base of trial pit
TP309	0.30	33.03	Brick wall in northern face of trial pit

Table 4.3: Below Ground Obstruction, Plot NT04

BH ID	Depth		Notes and observations
	mbgl	mAOD	
TP218	0.40 to 1.70	40.82 to 39.52	Masonry wall likely associated with former Dalton Works
	0.40 to 2.80	40.82 to 38.42	Masonry wall likely associated with former Dalton Works
	0.60	40.62	Arch structure likely associated with former Dalton Works
	1.20	40.02	Masonry floor likely associated with former Dalton Works
WS208	1.00 to 1.18	40.72 to 40.54	Asphalt infill
WS212	0.50	40.85	Relic brick wall likely associated with former Dalton Works
TP305	0.60	32.37	Brick structure in western face
TP307	0.50	34.32	Concrete boulders

4.2 Laboratory Testing

4.2.1 To establish the physical and chemical properties of underlying soils, a programme of laboratory analysis was completed utilising samples obtained during both phases of site investigation works. This analysis comprised the testing of soil samples to assist with the estimation of risks posed by contaminated land related concerns.

Chemical Testing

4.2.2 RoC Consulting submitted the following soil and water samples to a UKAS accredited testing facility for analysis against a range of determinants synonymous with the site's former industrial activity and to further assess contamination issues identified during the initial phase of works.

Table 4.4: Chemical Testing Breakdown

Determinands	No. of Tests (Phase 2a)	No. of Tests (Phase 2e)	No. of Tests (NR Mound)	No. of Tests (Phase 2f)
Soil - Toxic and phytotoxic metals and metalloids	27	60	12	10
Soil - Total & Speciated Polycyclic Aromatic Hydrocarbons (PAH)	27	60	12	10
Soil - Other inorganic substances (e.g. Sulphate, Cyanide etc)	27	60	12	10
Soil - TPH UKCWG	15	51	12	10
Soil - Asbestos ID	26	32	7	5
Soil - Asbestos Quantification	5	13	0	0
Soil - SVOC's	11	37	9	10
Soil - VOC's	11	37	9	10
Soil - Speciated Phenols	12	37	0	0
Soil - Leachate Analysis (Heavy Metals, PAHs etc)	5	7	3	0
Soil - Leachate Analysis (TPH UKCWG)	6	7	3	0
Soil - Leachate Analysis (VOC)	0	7	0	0
Soil - Water Soluble Sulfate & pH	27	17	12	10
Soil - Waste Acceptance Criteria	2	14	2	0
Soil - UKWIR	1	0	0	0
Water - Toxic and phytotoxic metals and metalloids	19	17	1	11

Water - Total & Speciated Polycyclic Aromatic Hydrocarbons (PAH)	19	17	1	11
Water - TPH UKCWG	19	17	1	11
Water - SVOC's	19	17	1	1
Water - VOC's	19	17	1	11
Water - Speciated Phenols	15	17	1	1

4.2.3 Copies of chemical testing results have been provided within Appendix C.

Geotechnical Testing

4.2.4 A programme of geotechnical laboratory analysis was also completed on soil samples and rock cores obtained during site investigation works. A summary is presented in the table below. Results from geotechnical laboratory testing have been provided within Appendix D.

Table 4.5: Geotechnical Testing Breakdown

Test	Total (Phase 2)	Total (Phase 2e)	NR Mound	Total	Remarks
Unconfined Compressive Strength	15	10	1	**26**	Detail in Section 10
Point Load Testing	41	22	0	**63**	Detail in Section 10
PI	5	7	4	**16**	Detail in Section 10
Moisture Content	13	18	4	**35**	Earthworks assessment
Particle Size Distribution	2	5	6	**13**	Earthworks, generally confirms field observations
Sedimentation	0	5	1	**6**	Earthworks, generally confirms field observations
2.5kg Compaction	0	5	0	**5**	Earthworks assessment
Consolidation (Oedometer)	0	1	0	**1**	Detail in Section 10
Triaxial Shear Strength	0	1	0	**1**	Detail in Section 10

4.3 Investigated Structures

4.3.1 The scope of the works also included the investigation of existing structural elements.

4.3.2 In NT02 TP08 was undertaken to establish the foundation arrangement to the existing viaduct structure. The trial pit encountered a large footing beneath a relic steel column which sits in front of the viaduct this feature prevented further excavation to reveal the retaining wall foundations.

4.3.3 In NT03 MP301 was undertaken to establish the foundation arrangement to the existing viaduct structure. The trial pit encountered a large strip footing extending approximately 900mm from the viaduct.

4.3.4 In NT04 TP220 was undertaken to establish the foundation arrangement to the existing viaduct structure. This has shown the structure to be sat on a foundation located 1.40mbgl and founded within underlying stiff clay of the Devensian Till.

4.3.5 Sketch drawings of the structural investigations are presented in Drawing 4328-ROC-ZZ-XX-SK-ES-ESK110 and 4328-ROC-ZZ-XX-SK-ESK111 contained within Appendix A. The locations of the works and photographic records are presented on Drawing 4328-ROC-ZZ-XX-DR-ES206.

4.3.6 Several investigation and excavations have been undertaken in the Network Rail Mound in NT03, to determine the potential existence of a retaining structure behind the mound. The findings of these works are summarised in a separate report, completed by RoC Consulting in January 2023 (ref. 4328-ROC-ZZ-XX-TN-ES-TN2) enclosed in Appendix J.

5.0 Ground and Groundwater Conditions

5.0.1 In the following Sections, the encountered ground and groundwater are described for plots NT02, NT03 and NT04, based on the factual findings of the exploratory holes formed during the LK (2020) and RoC Consulting (2022 and 2023) site investigations and subsequent geological and hydrogeological interpretation. Borehole and trial pit log sheets are provided within Appendix B for a detailed strata description.

5.1 Ground Conditions

Plot NT02

5.1.1 In the following, the superficial deposits and the bedrock underneath the Plot NT02 is described; the ground profile is summarised below.

Made Ground

5.1.2 Made Ground soils have been encountered across the plot at all exploratory hole locations.

5.1.3 In Plot NT02 there is a surface covering of concrete and tarmac within and outside of buildings which is typically underlain by Made Ground of demolition fill type material. Typically, this is a gravelly sand or sandy gravel containing whole and half bricks and chunks of concrete. The gravel fraction of the made ground was predominantly made up of a mixture of brick fragments, slate, clinker, and slag. Other anthropogenic inclusions included wire, metal, glass, plastic, metal pipes and beams, clay pipes, fabric, rubber, and timber. The density of Made Ground was generally reported as medium dense according to SPT N Values and the level of difficulty experienced during hand excavation.

Superficial Deposits: Devensian Till

5.1.4 Devensian Till has been encountered in a slight majority of location in NT02, although it is often thin and sometimes comprises granular soils. Most typically Devensian Till was encountered as brown sandy gravelly clay ranging in consistency from very soft to stiff but generally becoming stiff with depth where encountered.

Bedrock Formations: Chester Formation

5.1.5 Bedrock of the Chester Formation (CHES) was encountered beneath Devensian Till deposits in all locations in NT02. The upper horizons of the Chester Formation were encountered to be significantly weathered and are effectively sand for up to the first 8m. Deeper horizons of the bedrock also show weaknesses and may be affected by faulting (Section 2.2). Bedrock contour plots displaying the level in mAOD at which weathered bedrock was encountered across the site are presented on 4328-ROC-ZZ-XX-DR-ES-ES204A in Appendix A. The depth of weathered bedrock was determined by a combination of physical description and SPT N values.

Bedrock Formations: Manchester Marls

5.1.6 Bedrock of the Manchester Marls (MM) formation was encountered beneath the Chester Formation in all locations where the Chester Formation was penetrated. The MM also shows weaknesses and may be affected by faulting (Section 2.2). 4328-ROC-ZZ-XX-DR-ES-ES204B depicts the surface levels of the MM formation based on borehole logs from across the site. It is evident from the contours on this drawing that

the MM formation generally dips to the west beneath the site (with some small variations in levels in the western portion of Plot NT04) in line with BGS mapping with the lowest recorded point on site being in the vicinity of RBH502 in the south western portion of Plot NT02 (15.29mAOD).

Table 5.0: Plot NT02 Ground Profile Summary Table – Made Ground and Superficial

	Min. depth to base		Max. depth to base		Av. depth to base		Notes
	m BGL	m AOD	m BGL	m AOD	m BGL	m AOD	
Made Ground	0.30	33.33	3.20	29.41	**1.40**	**31.64**	
Devensian Till	2.00	31.29	4.70	27.17	**2.98**	**30.02**	Not consistently present

Table 5.1: Plot NT02 Ground Profile Summary Table – Bedrock

Bedrock	Min. depth to top		Max. depth to top		Av. depth to top		Notes
	m BGL	m AOD	m BGL	m AOD	m BGL	m AOD	
Weathered Chester Formation	2.00	31.29	4.50	28.71	**2.75**	**30.19**	Predominantly dense sand of Chester Formation
Competent Bedrock – Chester Formation or Manchester Marl	6.00	27.60	15.00	18.20	**11.40**	**21.46**	Predominantly sandstone
Manchester Marl	8.06	27.17	18.30	15.29	**13.56**	**19.92**	Predominantly mudstone

Plot NT03

5.1.7 In the following, the superficial deposits, and the bedrock underneath the Plot NT03 is described; the ground profile is summarised below.

Made Ground

5.1.8 Made Ground soils were encountered in all exploratory locations in Plot NT03. In Plot NT03 there is a surface covering of concrete and tarmac within and outside of buildings which is typically underlain by Made Ground of demolition fill type material.

Superficial Deposits: River Terrace Deposits

5.1.9 In the location of RBH304, beneath Made Ground, rounded sandy gravel of sandstone, quartzite and siltstone was encountered, from a depth of 3.60m to termination at a depth of 9.45m. These soils are typically of River Terrace or Glaciofluvial Deposits and were not anticipated based on previous records or the published geological record. It is likely that these soils will be encountered during construction and be present at founding depths. Based on in-situ SPT testing, these are generally considered to be highly competent, but will exhibit differing geotechnical characteristics to the majority of the site and may contain groundwater.

5.1.10 The potential distribution of Glaciofluvial Deposits is indicated on Drawing 4328-ROC-ZZ-XX-DR-ES-ES210 in Appendix A. This has been inferred from other nearby borehole locations. It is also feasible these soils may extend into Plot NT04.

Superficial Deposits: Devensian Till

5.1.11 Devensian Till has been encountered in the significant majority of excavations to sufficient depth in NT03. Most typically Devensian Till was encountered as a firm to stiff slightly gravelly slightly sandy clay.

Bedrock Formations: Chester Formation

5.1.12 Bedrock of the Chester Formation was encountered beneath Devensian Till deposits in all locations in NT03. As encountered in bedrock across the site, the upper horizons of the Chester Formation are significantly weathered and are effectively sand for up to the first 6m. Deeper horizons of the bedrock also show weaknesses and may be affected by faulting. Bedrock contour plots displaying the level in mAOD at which weathered bedrock was encountered across the site are presented on 4328-ROC-ZZ-XX-DR-ES-ES204 in Appendix A. The depth of weathered bedrock was determined by a combination of physical description and SPT N values.

Bedrock Formations: Manchester Marls Formation

5.1.13 Bedrock of the Manchester Marls was encountered beneath the Chester Formation in all locations where this was penetrated. The bedrock also shows weaknesses and may be affected by faulting. Drawing 4328-ROC-ZZ-XX-DR-ES-ES204B in Appendix A depicts the contours of the surface of the MM formation across the plot and levels generally fall to the west from circa 25 to 26m along the boundary with Plot NT04 to circa 20m along the boundary with Plot NT02.

Table 5.2: Plot NT03 Ground Profile – Summary Table - Made Ground and Superficial

	Min. depth to base		Max. depth to base		Av. depth to base		Notes
	m BGL	m AOD	m BGL	m AOD	m BGL	m AOD	
Made Ground	0.20	34.92	3.30	29.05	**1.89**	**31.44**	
River Terrace Deposits	19.30	23.77	19.50	23.53	**19.40**	**23.65**	
Devensian Till	2.0	31.64	7.80	25.93	**3.75**	**29.61**	

Table 5.3: Plot NT03 Ground Profile – Summary Table - Bedrock

Bedrock	Min. depth to top		Max. depth to top		Av. depth to top		Notes
	m BGL	m AOD	m BGL	m AOD	m BGL	m AOD	
Weathered Chester Formation	2.00	30.76	7.80	25.93	**3.80**	**29.36**	Predominantly dense sand of Chester Formation
Competent Bedrock – Chester Formation or Manchester Marl	7.50	24.65	13.00	19.76	**10.33**	**22.55**	Predominantly sandstone
Manchester Marl	8.80	24.93	13	20.01	**10.44**	**22.45**	Predominantly mudstone

Network Rail Mound

5.1.14 In the following summary of ground conditions, the made ground, superficial and the bedrock deposits that underly the Network Rail mound located on Plot NT03 is described; the ground profile is summarised in the table overleaf with all depths indicated in meters below existing top of mound level, unless otherwise stated.

NR Mound Made Ground

5.1.15 Made Ground was encountered in all locations on top of the Network Rail mound. The mound was surfaced by 6F2 material laid down to create a working platform for the drilling rig during the works. Made ground directly beneath the 6F2 material was generally encountered as a black clayey organic material suspected to contain a large fraction of wood mulch. The gravel fraction included glass, slag, clinker, plastic and brick. Hydrocarbon odours were common throughout this material and pockets of ashy material were also encountered.

5.1.16 The mound was cut into circa 2-3m to create the working platform and the material forming the cut largely resembled that described above, in addition some large masonry inclusions were encountered possibly associated with the former signal station that once resided atop the mound.

5.1.17 At RBH401 and RBH402 the organic material described above was underlain by a firm gravelly clay containing brick, slate and ceramic with rare clinker and limited bands of granular made ground within the first one to two metres containing ash, slag and clinker. At RBH403 granular material was encountered beneath the organic material containing brick, plastic and glass with frequent metal and fibres, a hydrocarbon odour was also noted. The clay fraction of made ground encountered beneath the mound was generally of a very soft to firm consistency containing brick, slate, occasional glass fragments, ceramic, clinker, coal and various natural lithologies. At RBH403 a slight hydrocarbon odour was reported within the deep made ground between 9.00 and 10.50mbgl. At RBH401 from 7.80 to 9.20mbgl a firm slightly gravelly clay was reported, no anthropogenic inclusions were noted within the clay however it is believed to constitute a reworked clay owing to its low strength and occasional brick inclusions.

NR Mound Superficial Deposits: River Terrace Deposits

5.1.18 Natural soils were encountered underlying the cohesive made ground deposits at all 3 exploratory hole locations and were reported as a medium dense gravelly sand becoming silty and less gravelly in areas. The density of these deposits was found to increase with depth eventually becoming very dense. At 16.50 to 18.00mbgl in RBH403 a band of stiff slightly gravelly clay was encountered with granular deposits present both over and underlying.

NR Mound Bedrock Formations: Manchester Marls

5.1.19 Bedrock of the Manchester Marls formation was encountered at RBH401 and RBH403 at depths of 19.30 and 19.50mbgl respectively directly underlying the river terrace deposits and was described as an extremely weak reddish-brown mudstone completely weathered to a very stiff clay in places.

Table 5.4: Network Rail Mound Ground Profile Summary

Superficial Soil	Min. depth to base		Max. depth to base		Av. Depth to base		Notes
	m BGL	m AOD	m BGL	m AOD	m BGL	m AOD	
Made Ground (6F2)	0.20	43.12	0.20	42.83	0.18	42.94	Placed during ramp and working platform formation
Made Ground (Organic Material)	1.00	42.28	3.50	39.52	2.33	40.79	Topsoil like material containing a large proportion of man-made material and suspected wood mulch
Made Ground (Cohesive Material)	9.20	33.87	10.50	32.53	9.97	33.16	Very soft to firm clay with significant gravel content primarily of anthropogenic origin including bricks, glass and slag. Some pockets of granular material in the upper several metres.
River Terrace Deposits	19.30	23.77	19.50	23.53	19.40	23.65	Predominantly sand, silty sand and sandy gravel a band of clay was encountered in RBH403.
Manchester Marls	**N/A**						Depth to base not proven encountered as stiff clay – extremely weak mudstone at the base of the River Terrace deposits.

Plot NT04

5.1.20 In the following, the superficial deposits and the bedrock underneath the Plot NT04 is described; the ground profile is summarised in the table overleaf.

Made Ground

5.1.21 Made Ground soils were encountered in all locations in NT04. The southern part of NT04 is surfaced with a concrete slab while the remainder comprises overgrown vegetation and weeds. Made ground was generally encountered as a gravelly sand or gravelly clay containing clinker, concrete, brick, slag, slate, coal, and ceramics.

5.1.22 At TP214 material suggestive of an informal domestic waste landfill was encountered with domestic products such as food containers, plastic, clothing, rubber, rebar, and sheet metal encountered. This material appears to be limited to the immediate vicinity of TP214 and no similar material was encountered in neighbouring exploratory holes.

Superficial Deposits: Devensian Till

5.1.23 Devensian Till has been encountered in the significant majority of excavations to sufficient depth in NT04. Most typically Devensian Till was encountered as a stiff brown or blueish grey clay, slightly gravelly in places.

Bedrock Formations: Chester Formation

5.1.24 Consistent with geological records, bedrock of the Chester Formation was encountered in only one location at the western edge of NT04, RBH206. As encountered in bedrock across the site, the upper horizons of the Chester Formation are significantly weathered. Bedrock contour plots displaying the level in mAOD at which weathered bedrock was encountered across the site are presented on 4328-ROC-ZZ-XX-DR-ES-ES204 in Appendix A. The depth of weathered bedrock was determined by a combination of physical description and SPT N values.

Bedrock Formations: Manchester Marls

5.1.25 Bedrock of the Manchester Marls was encountered in all locations underlying the Devensian Till Deposits and beneath the Chester Formation at RBH206.

5.1.26 As encountered in bedrock across the site, the upper horizons of the Manchester Marl are significantly weathered, and often comprise clay or sand in the first 3m and show poor recovery. The bedrock also shows weaknesses at depth and may be affected by faulting. The surface of the Manchester Marl on Plot NT04 is dipping from the east to the north and west. The dip is relatively shallow in the eastern portion of the plot and steepens to the boundary with Plot NT03, generally following the natural topography of the land.

Table 5.5: Plot NT04 Ground Profile Summary Table - Made Ground and Superficial

	Min. depth to base		Max. depth to base		Av. Depth to base		Notes
	m BGL	m AOD	m BGL	m AOD	m BGL	mAOD	
Made Ground	0.60	40.49	9.00	29.38	**1.87**	**35.85**	
Devensian Till	4.70	33.88	10.00	23.88	**7.48**	**28.99**	

Table 5.6: Plot NT04 Ground Profile Summary Table - Bedrock

Bedrock	Min. depth to top		Max. depth to top		Av. Depth to top		Notes
	m BGL	m AOD	m BGL	m AOD	m BGL	m AOD	
Chester Formation	7.65	24.35	7.65	24.35	**N/A**	**N/A**	Only present at RBH206
Weathered Bedrock (Manchester Marl)	4.70	33.88	10.00	23.88	**7.48**	**28.99**	Predominantly clay or weak mudstone
Competent Bedrock (Manchester Marl)	10.20	30.00	15.00	17.88	**12.17**	**25.43**	Predominantly mudstone

5.2 Contamination Observations

Plot NT02 – Southern Warehouse

5.2.1 Evidence of a potential source of SVOC or VOC contamination was noted beneath and around the warehouse structure across the Plot NT02 portion of site, potentially relating to former metal fabrication / bolt works operations that were known to have been present in this area. The issue was initially identified during the first phase of RoC Consulting ground investigation works and was the subject of a more detailed targeted programme of investigations during the follow up Phase 2e and Phase 2f investigations. The contamination observations in this location, from across both phases of works, are summarised in the table below.

Table 5.7: Plot NT02 Southern Warehouse Visual and Olfactory Evidence of Contamination

BH ID	Depth		Notes and observations
	mbgl	mAOD	
WS202	1.00	31.05	Strong solvent odours within Devensian Till deposits. Likely associated with historic industry on plot and adjacent to site boundary (Rubber works, foundry, bolt works, signage works)
TP202	0.40	33.20	Hydrocarbon odours within made ground deposits. Likely associated with historic industry on plot and adjacent to site boundary (Rubber works, foundry, bolt works, signage works)
RBH203	2.30	31.29	Strong solvent odours within weathered Chester Formation (Reddish brown sand). Likely associated with historic industry on plot and adjacent to site boundary (Rubber works, foundry, bolt works,signage works)
WS303	0.28	33.32	Hydrocarbon odour likely associated with historic industry on plot and adjacent to site boundary (Rubber works, foundry, bolt works, signage works)
RBH502	1.20 to 1.80	32.59 to 31.79	Hydrocarbon odour likely associated with historic industry on plot and adjacent to site boundary (Rubber works, foundry, bolt works, signage works)

5.2.2 A photoionisation detector (PID) has been used to assess potential volatile organic contamination in soils in this location across multiple stages of investigation and monitoring. While positive detections have been made, these are inconsistent, and are considered to be of lesser relevance for assessment than laboratory testing and subsequent vapour sampling.

5.2.3 In addition, as part of these works, a manhole in the centre of the southern warehouse was lifted to determine if this presented a potential source of contamination. A photograph of the chamber is presented below. The chamber has no contents or labelling, and its structure suggests it is a former drain. There was no visual or olfactory evidence of contamination.

Figure 5.0 – Southern warehouse manhole chamber



Plot NT03

5.2.5 Olfactory evidence of contamination in Plot NT03 as summarised in the table below.

Table 5.8: Plot NT03 Visual and Olfactory Evidence of Contamination

BH ID	Depth		Notes and observations
	mbgl	mAOD	
WS311	0.10	34.94	Hydrocarbon odour
TP203	0.05	32.19	Strong hydrocarbon odours within made ground deposits. Likely associated with historic industry on plot (foundry, bolt works, asphalt works)
TP309	0.30	33.03	Hydrocarbon odour, potentially associated with plastic jerry can found in soil.

RBH504	1.40 to 1.90	32.64 to 32.14	Hydrocarbon odour likely associated with historic industry on plot (foundry, bolt works, asphalt works)
	1.90 to 2.40	32.14 to 31.64	Strong hydrocarbon odour and oily sheen likely associated with historic industry on plot (foundry, bolt works, asphalt works)
	2.40 to 2.90	31.64 to 31.14	Slight hydrocarbon odour likely associated with historic industry on plot (foundry, bolt works, asphalt works)
	3.10 to 3.30	30.54 to 30.74	Hydrocarbon odour, black bands and oily sheen likely associated with historic industry on plot (foundry, bolt works, asphalt works).

5.2.6 In addition, it should be noted that Plot NT03 contains aforementioned small mounds of material associated with the former site operator Ryan Topsoil, some of which has been left here for the purpose of maintaining slope integrity. This material is generally poor quality containing a fraction of household waste and plastic and occasional deposits of ash. Logs of these excavations are presented in Appendix B.

Network Rail Mound

5.2.7 Olfactory evidence of contamination within the Network Rail mound as summarised in the table below.

Table 5.9: Plot NT03 Visual and Olfactory Evidence of Contamination

BH ID	Depth		Notes and observations
	mbgl	mAOD	
RBH401	0.20 to 2.50	42.87 to 40.57	Hydrocarbon odour
	2.50 to 3.40	40.57 to 39.67	Hydrocarbon odour
RBH402	0.15 to 1.00	43.12 to 42.28	Hydrocarbon odour
RBH403	2.50 to 3.50	40.53 to 39.53	Hydrocarbon odour
	3.50 to 5.30	39.53 to 37.73	Hydrocarbon odour
	9.00 to 10.50	34.03 to 32.53	Slight hydrocarbon odour

Plot NT04

5.2.7 Olfactory evidence of contamination in Plot NT04 as summarised in the table below.

Table 5.10: Plot NT04 Visual and Olfactory Evidence of Contamination

BH ID	Depth		Notes and observations
	mbgl	mAOD	
TP307	0.50	34.32	Hydrocarbon odour

5.3 Groundwater Conditions

5.3.1 Groundwater strikes were observed throughout the site investigation works and records of these are presented in borehole logs in Appendix B. It should be noted that, due to the choice of drilling methods, it was not possible to accurately record the depth of groundwater strikes in rotary drilling locations. Assessment of deep groundwater levels is more accurately made based on the resting water levels recorded during monitoring (presented in Appendix E).

Made Ground (MG)

5.3.2 Made ground was encountered at all exploratory hole locations across the site. In **Plot NT02** there is a surface covering of concrete and tarmac within and outside of buildings (approximately 3,000 m^2) which is typically underlain by Made Ground of demolition fill type material; mainly granular (gravelly sand or sandy gravel, containing bricks and concrete); gravel is a mixture of brick fragments, slate, clinker, and slag.

5.3.3 The density of Made Ground in Plot NT02 was generally reported as medium dense according to SPT N Values and the level of difficulty experienced during hand excavation. The average thickness of the MG is 1.40m (varies from 0.30 to 3.20m).

5.3.4 In **Plot NT03** there is a surface covering of concrete and tarmac within and outside of buildings (approximately 4,500 m^2), within the former Ryan Topsoil Yard there is a surface covering of hardcore material. Surface coverings present on NT03 are typically underlain by Made Ground of demolition fill type material of similar composition to Plot NT02.

5.3.5 The density of Made Ground was generally reported as medium dense according to SPT N Values and the level of difficulty experienced during hand excavation. The average thickness of the MG is 1.89m (varies from 0.20 to 3.30 m).

5.3.6 The southern part of **Plot NT04** is surfaced with a limestone gravel (approximately 350m^2), while the remainder comprises overgrown vegetation and weeds. Made ground was generally encountered as a gravelly sand or gravelly clay containing clinker, concrete, brick, slag, slate, coal, and ceramics.

5.3.7 The density of Made Ground was generally reported as medium dense according to SPT N Values and the level of difficulty experienced during hand excavation. The average thickness of the MG is 1.87m (varies from 0.60 to 9.00 m).

Superficial Deposits: River Terrace Deposits

5.3.8 These deposits (not anticipated based on published geology) were encountered beneath the MG in the south of Plot NT03 at four locations (RBH304 and RBH401 to RBH403)

5.3.9 At RBH304, River Terrace Deposits were encountered as rounded sandy gravel of sandstone, quartzite and siltstone, from a depth of 3.60m to termination at a depth of 9.45m, similar deposits were also encountered beneath the Network Rail mound from 19.30 to 19.50 mbgl.

5.3.10 It is likely that these soils will be encountered during construction and be present at founding depths. Based on in-situ SPT testing, these are generally considered to be highly competent, but will exhibit differing geotechnical characteristics to the majority of the site and may contain groundwater, likely in hydraulic contact with the River Irk. It is also feasible these soils may extend into Plot NT04.

5.3.11 The estimated extents of the encountered River Terrace Deposits is indicated on Drawing 4328-ROC-ZZ-XX-DR-ES-ES210 in Appendix A.

5.3.12 Based on its lithology, the hydraulic conductivity of the River Terrace deposits is estimated to be quite variable, between 1x10E-05 and 1x10E-01 m/s (Ref. Freeze and Cherry, 1979).

Superficial Deposits: Devensian Till

5.3.13 On **Plot NT02** Devensian Till has been encountered in most locations, typically comprising brown sandy gravelly clay ranging in consistency from very soft to stiff but generally becoming stiff with depth. Till has also occasionally been reported as being granular in nature, but this was at a limited number of locations. The average depth to the base of the Till is 2.98m (varies from 2.00 to 4.70m). The density of Till was generally reported as medium dense according to SPT N Values. Based on its lithology, the Till hydraulic conductivity is estimated to be quite variable, between 1x10E-12 and 1x10E-06 m/s (Ref. Freeze and Cherry, 1979).

5.3.14 On **Plot NT03** Devensian Till has been encountered in the majority of boreholes to sufficient depth. Most typically Devensian Till was encountered as a firm to stiff slightly gravelly slightly sandy clay. Where bedrock was encountered, the average depth to the base of the Till is 3.75m (varies from 2.00 to 7.80m).

5.3.15 The density of Till was generally reported as medium dense according to SPT N Values. Based on its lithology, the Till hydraulic conductivity is estimated to be quite variable, between 1x10E-12 and 1x10E-06 m/s (Ref. Freeze and Cherry, 1979).

5.3.16 On **Plot NT04** Devensian Till has been encountered in the majority of boreholes to sufficient depth. Most typically Devensian Till was encountered as a stiff brown or blueish grey clay, slightly gravelly in places. The average depth to the base of the Till is 7.48m (varies from 4.70 to 10.00 m). The density of Till was generally reported as medium dense according to SPT N Values. Based on its lithology, the Till hydraulic conductivity is estimated to be quite variable, between 1x10E-12 and 1x10E-06 m/s (Ref. Freeze and Cherry, 1979).

Bedrock Formations: Chester Formation

5.3.17 The Bedrock of the Chester Formation was encountered beneath Devensian Till deposits in all locations in NT02 and NT03, thinning from west to east. In NT04 this formation was encountered only in two locations at the western edge of NT04, RBH206 and WS312.

5.3.18 The upper horizons of the CHES were encountered to be significantly weathered and are effectively sand for up to the first 8.00m in NT02 and 6.00m in NT03. Deeper horizons of the bedrock also show weaknesses and may be affected by faulting (Section 2.2). The CHES was proven to 18.30mbgl in Plot NT02 and 13.00m within Plot NT03 at its greatest extent before the bedrock transitions to the MM formation. The thickness of the CHES varies from 13.8m in the southwestern portion of the Plot NT02 to 1.00m in Plot NT03 with the average thickness being 8.69m. The strength of the CHES was generally reported as weak, locally very weak based on results from UCS and point load testing completed during the Phase 2f investigation.

5.3.19 Hydraulic conductivity testing on site in the CHES at RBH203, RBH301, RBH302, RBH303, RBH503 and RBH505 P1 presented in the DQRA report in Appendix I, gave a range between 5.01E-06 to 1.76E-05 m/sec, with a geometric mean of 6.17x10E-06 m/sec or 0.82 m/day. These values lie between reported CONSIM literature values for a solid sandstone of 3x10E-10 and 6x10E-06 m/s and a sand of 1x10E-07 and 6x10E-03 consistent with groundwater flow within a weathered sandstone.

Bedrock Formations: Manchester Marls Formation

5.3.20 The Bedrock of the Manchester Marls (MM) was encountered beneath the CHES in all locations drilled to sufficient depth in the west of the site and beneath the River Terrace Deposits in Plot NT03 and Devensian Till in the eastern portion of the site; its full thickness within the site area was not proven by drilling. As encountered in bedrock across the site, the upper horizons of the MM are significantly weathered, and often comprise clay or sand in the first 3m and show poor recovery. The bedrock also shows weaknesses at depth and may be affected by faulting (Section 2.2). The strength of the MM was also found to be extremely weak to weak.

5.3.21 Based on its lithology, the hydraulic conductivity of the weathered MM (approximately comparable to a silty sand, thus mainly permeable by porosity) is estimated to be between 1x10E-07 and 1x10E-03 m/s, whilst the conductivity of the competent MM (mainly permeable by fracturing) is estimated to be between 1x10E-10 and 1x10E-07 m/s (Ref. Freeze and Cherry, 1979).

Groundwater Occurrence and Level Monitoring

5.3.22 Groundwater strikes were observed throughout the site investigation works and records of these are presented in borehole logs in Appendix B.

5.3.23 It should be noted that it was not possible to accurately record the depth of groundwater strikes in rotary drilling locations.

5.3.24 The assessment of groundwater levels is more accurately made based on the resting water levels recorded during monitoring events carried out in the period September 2022 to December 2023; these are reported in Appendix E and the hydrograph(s) in chart 5.0, 5.1, 5.2, 5.3 and 5.4 below.

5.3.25 Throughout the monitoring period, covering a full hydrological year, the following can be highlighted:

- A single well screened in the Made Ground deposits (WS311) was found to contain groundwater. Groundwater in this location had a hydraulic head varying between 34.64 and 34.51mAOD over a monitoring period from April to August 2023.

- The hydraulic head of the well screened in RBH304 in the River Terrace Deposits located in the centre south of Plot NT03 ranges from 27.25 (April 2023) to 27.43 mAOD (June 2023), it should be noted however that this well was largely dry and these levels may be attributable to rainfall infiltrating into the well.

- The hydraulic head of the subsequently installed RBH403 ranges from 29.23 to 29.11mAOD (November 2023). RBH401 which was also installed within the River Terrace Deposits at the same depth and with the same response zone as RBH403 was dry during all visits. The groundwater within RBH403 is therefore likely to be an isolated pocket of groundwater sitting above the low permeability clay encountered at 26.53mAOD in this location which was not encountered at RBH401.

- The hydraulic head of the wells screened both in the CHES and the MM (only two holes have screens in both formations, LKBH01 and LKBH03) ranges from 26.63 mAOD (LKBH01 nearby the river in the northwest of site, in June 2023) to 27.13 mAOD (LKBH03 in the southwest of the site, in January 2023).
- The hydraulic head of the wells screened in the CHES ranges from 26.44 mAOD (RBH305 nearby the river in the centre-north of Plot NT03, in June 2023) to 27.60 mAOD (RBH302 in the southwest of Plot NT02, in November 2023).

- The hydraulic head of the wells screened in the MM ranges from 25.78 mAOD (RBH205 nearby the river in the north of Plot NT04, in September 2022) to 29.74 mAOD (RBH306 in the centre-east of Plot NT03, in April 2023).

5.3.26 The hydraulic head data have been assembled in five different periods, to represent different rainfall regimes during the year, namely: September 2022 (autumn), December 2022-February 2023 and November to December 2023 (winter) and April-June 2023 (spring) and July to August 2023 (summer); the hydraulic head distribution across the site and the groundwater flow field is described in the following paragraphs.

Autumn

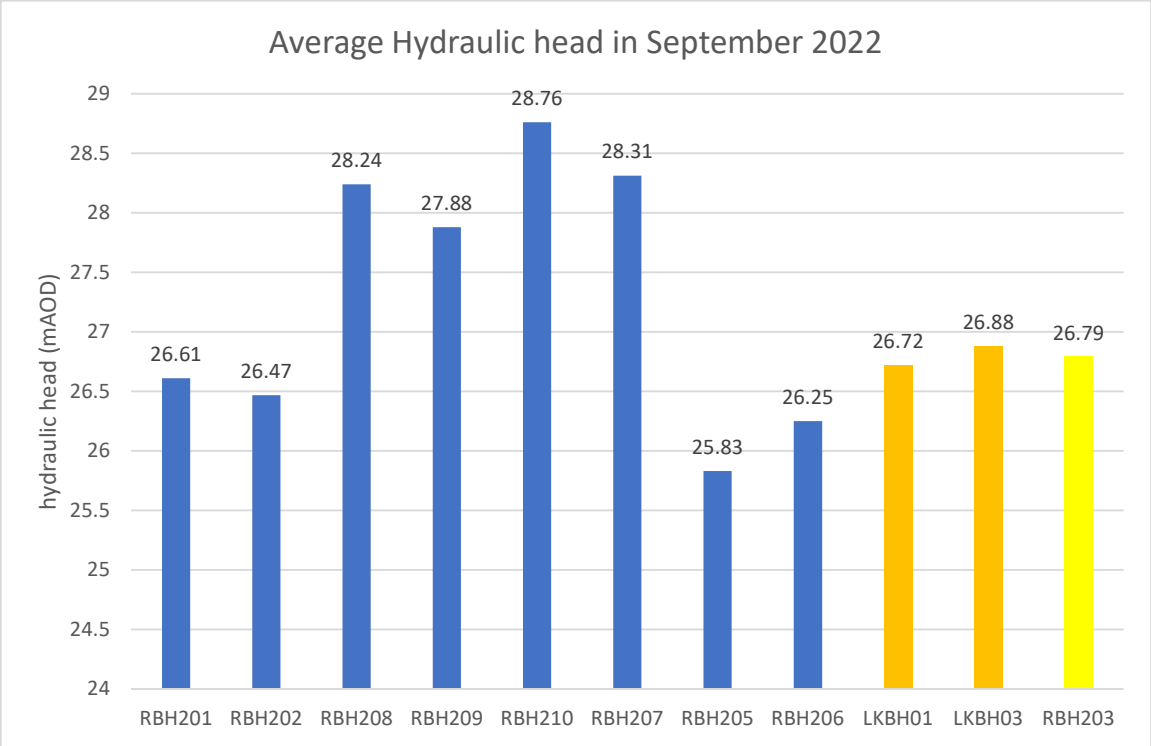
5.3.27 The September 2022 monitoring round was carried out mostly in monitoring wells screened in the MM (with only two wells in the CHES & MM, and only one well screened in the CHES); as such, this monitoring round has been taken as representative of the MM average hydraulic head in Autumn. Chart 5.0 below shows the following:

- Boreholes screened in the MM (blue in the chart) located near the river (RBH201, RBH202, RBH205 and RBH206) have the lowest heads, indicating that the groundwater is in hydraulic contact with the river in this area of the site.

- Boreholes screened in the MM (blue in the chart) located in the eastern area of site (RBH207-210) have the highest heads, likely due to the effect of the thickening of the Till towards the east and that, albeit hydraulically connected, the CHES and the MM aquifers have a slightly different piezometry, due to the geological setting of the site and different hydraulic conductivities of the two formations.

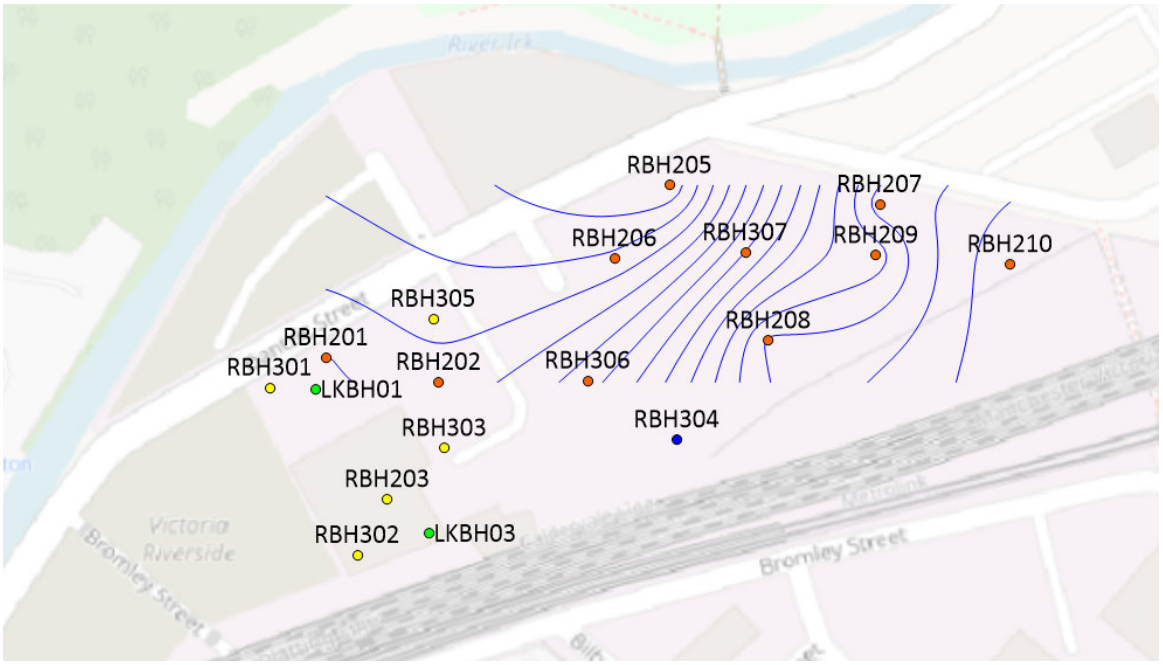
- Boreholes screened in the CHES (RBH203, yellow in the chart) and the ones in the CHES & MM (orange in the chart) have heads in-between the two above sets of data, possibly indicating that, albeit hydraulically connected, the CHES and the MM aquifers have a slightly different piezometry, due to the geological setting of the site and different hydraulic conductivities of the two formations.

Chart 5.0 – Average Hydraulic Head September 2022



5.3.28 The September 2022 MM groundwater contour map is presented in Figure 5.1; the piezometry in the MM shows hydraulic heads between 28.76 mAOD at RBH210 to 25.83 mAOD in RBH205 (near the river); the groundwater flow direction is SSE-NNW towards the river, showing a progressive change in direction in the centre of the site to SSW-NNE and a decrease in hydraulic gradient (increase of contours spacing). The groundwater flow field shows that the River Irk is a gaining river, i.e., the MM aquifer is providing baseflow to the river.

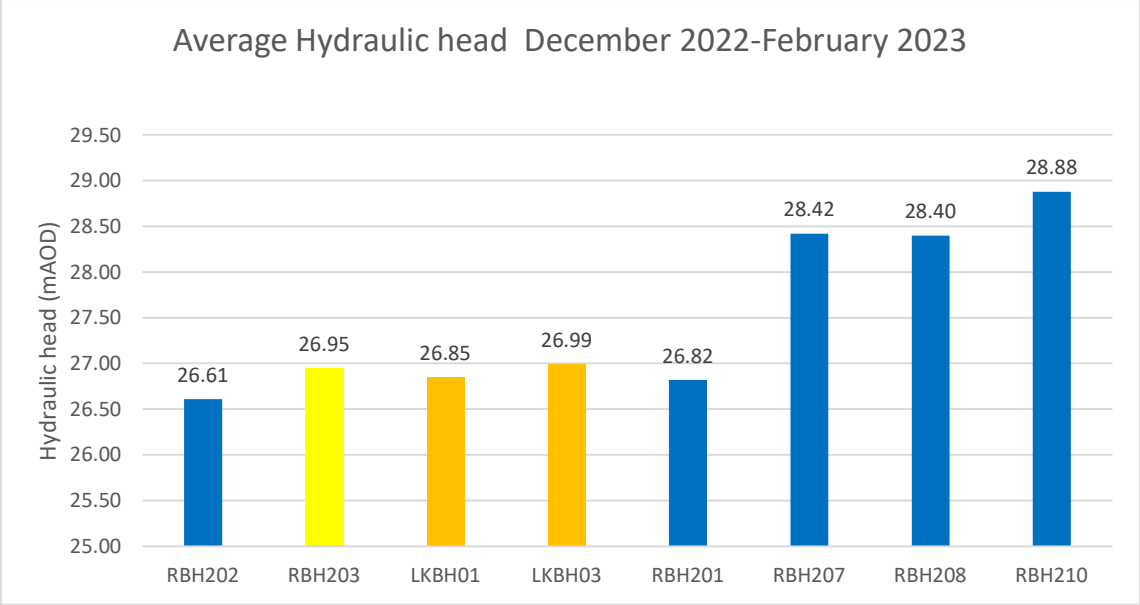
Figure 5.1 – Sept 2022 average hydraulic head in the MM aquifer



Winter

5.3.29 The winter (wet season) piezometry is considered to be represented by the average heads in December 2022 and the January and February 2023 monitoring rounds, (illustrated in Chart 5.1 and Figure 5.2) and November to December 2023 (illustrated in Chart 5.2 and Figure 4328-ROC-ZZ-XX-DR-ES-ES205 K) based on the fact that the hydraulic heads of the monitored wells do not show significant differences and that there is no clear relationship with the monthly rainfall, with the only exception of well LKBH03 showing the highest head (27.13mAOD) in January in comparison to those measured in December and February (26.97 and 26.89 mAOD, respectively). However, it should be noted that 1) December has the highest monthly rainfall (96.98mm) in the 30-year climate period 1991-2020, therefore the connection between the heads and the rainfall remains unclear, and 2) the relative differences in the levels are small and not deemed to have a significant impact on the groundwater flow field.

Chart 5.1 – Average Hydraulic Head December 2022 to February 2023

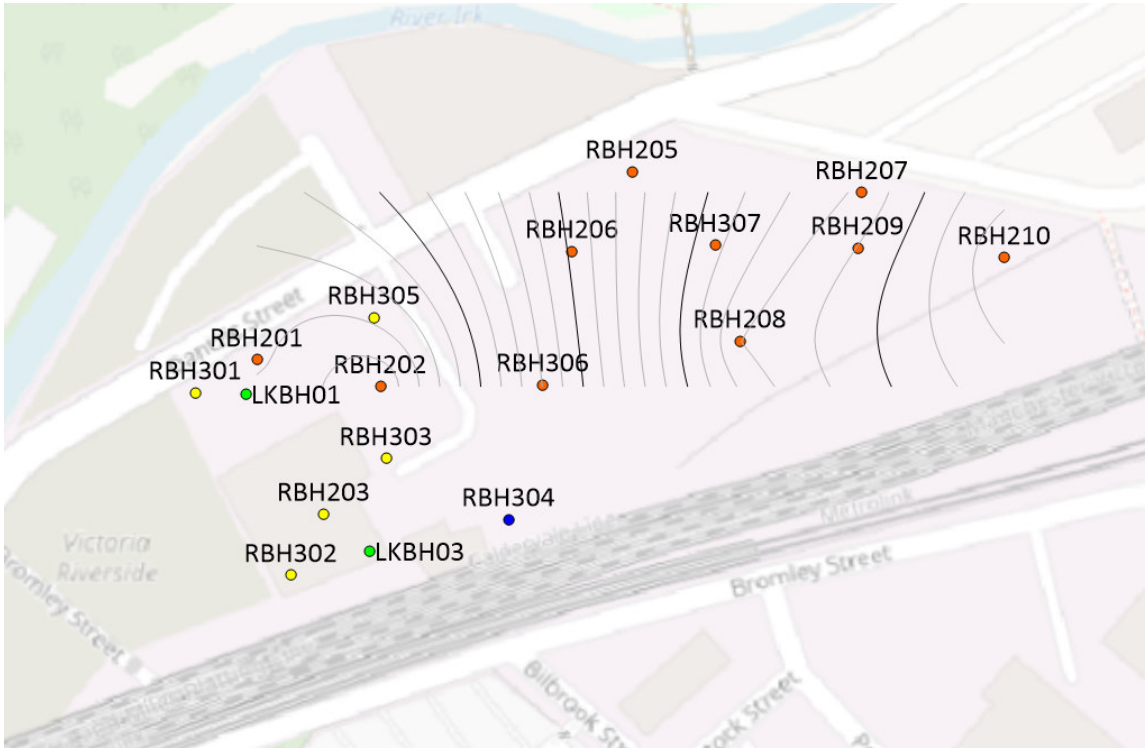


5.3.30 Similarly to September 2022, the December 2022 to February 2023 MM piezometry shows the following:

- RBH201 and RBH202 show the lowest heads, indicating hydraulic connectivity of the MM aquifer with the river
- RBH207-210 show the highest upgradient heads
- Boreholes screened in the CHES (RBH203) and both CHES & MM (LKBH01 and LKBH03) show similar average heads, comparable to the ones in RBH201 and RBH202, suggesting a hydraulic connection of the CHES aquifer with the MM aquifer and the river.

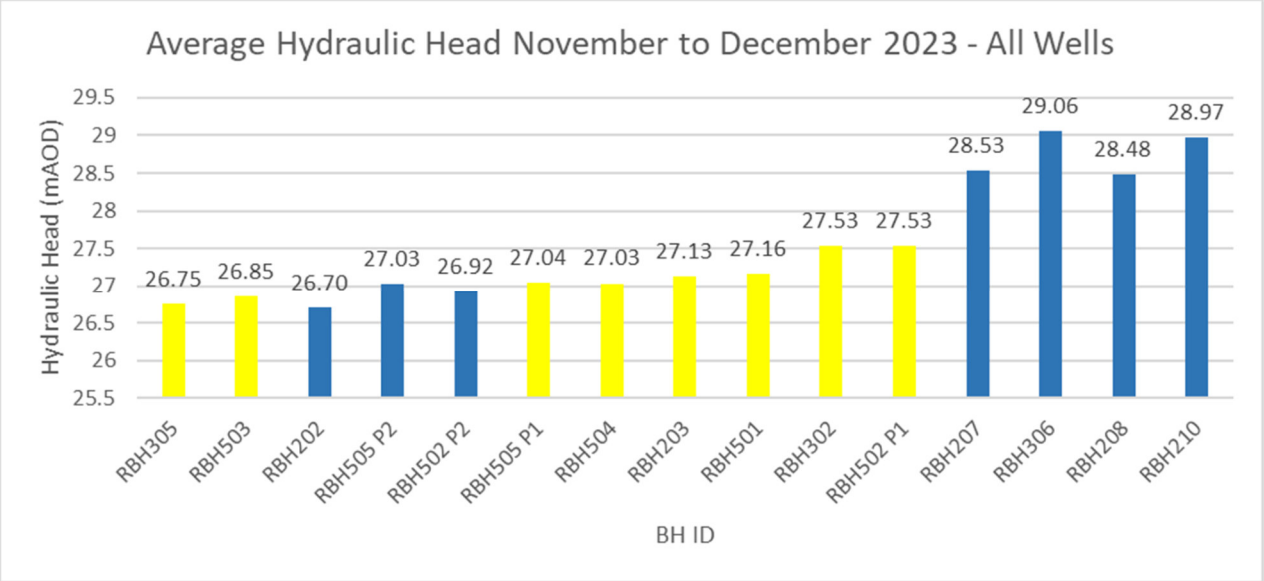
5.3.31 The December 2022 –to February 2023 piezometry groundwater contour map is presented in Figure 5.2; the piezometry in the MM shows hydraulic heads between 28.88 mAOD at RBH210 to 26.61 mAOD in RBH202; the groundwater flow direction is E-W converging to the lowest head in RBH202 and likely further westward towards the river, but the lack of monitoring points does not allow to confirm this. The groundwater flow field shows that the River Irk is a gaining river, i.e., the MM aquifer is providing baseflow to the river.

Figure 5.2 – Average Hydraulic Head December 2022 to February 2023 in the MM Aquifer



5.3.32 The November to December 2023 monitoring was completed on several separate monitoring visits from the 13th November until the 12th December and was carried out on a mixture of monitoring wells screened in the CHES & MM including the newly installed 50X series wells; as such, this monitoring round has been taken to be additional evidence of the CHES and MM average hydraulic head in winter. The chart below shows the following:

Chart 5.3 – Average Hydraulic Head November to December 2023 (All Wells)



- RBH202 installed in the deeper MM at 21.00 to 25.00m bgl shows the lowest head, indicating a likely hydraulic contact of the MM aquifer with the river.
- Average hydraulic heads in wells installed in the CHES generally fall from south to north as shown on groundwater contours for the CHES presented in Figures 4328-ROC-ZZ-XX-DR-ES-ES205 E to H in Appendix A which show a general groundwater flow towards the north-northeast.
- As with the 2022 data RBH207, RBH208, RBH210 and RBH306 show the highest upgradient heads

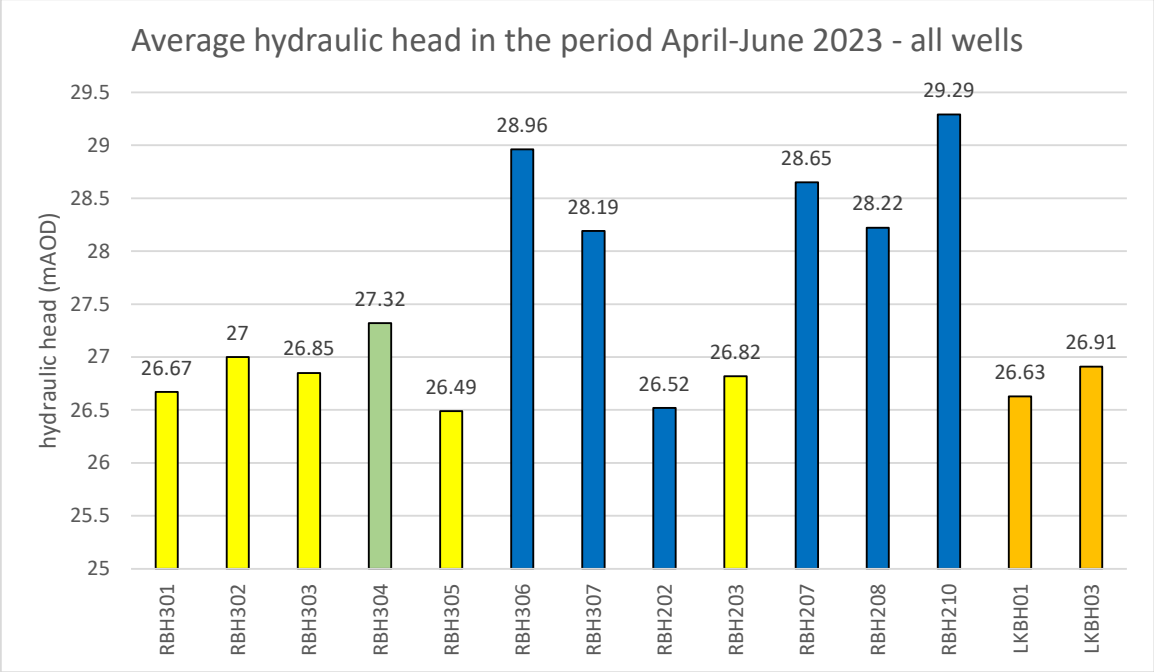
The November 2023 piezometry groundwater contour map for the MM presented in Figure 4328-ROC-ZZ-XX-DR-ES-ES205 K shows a general groundwater flow to the west, consistent with the slope of the MM surface presented in Figure 4328-ROC-ZZ-XX-DR-ES-ES204 B in Appendix A.

Spring

5.3.33 The hydraulic heads monitored in the period April-June 2023 can be assumed as representative of the spring season, where the monthly rainfall ranges from 55.81mm (April) to 64.61mm (June). In April 2023, the Phase 2e monitoring wells (RBH3XX series) were constructed and monitored monthly, together with the Phase 2a boreholes (RBH2XX series) and the historic LK boreholes. The Phase 2 GIs holes also included one monitoring well (RBH304) with response zone targeting the River Terrace Deposits. Overall, this monitoring period represents the most complete groundwater level dataset available.

5.3.34 The chart in Chart 5.3 below shows the hydraulic head in all the monitoring wells. The heads monitored in the RBH3XX series boreholes show a more pronounced difference in piezometry between the CHES (yellow in chart) and MM (blue in chart) aquifers, with the CHES heads ranging from 26.49 to 27.00 mAOD and the MM heads ranging from 28.19 to 29.29 mAOD, when not including the well RBH202 likely in hydraulic contact with the river. In this respect, the LK wells (orange in the chart) more closely represent the CHES piezometry, with LKBH01 possibly also in contact with the river. This piezometric distribution implies the existence of two laterally connected aquifers with different hydraulic conductivities and hydraulic heads, this fact is reflected by the ground profile beneath the site (Section 5.1).

Chart 5.4 – Average Hydraulic Head April to June 2023 (All Wells)



Summer

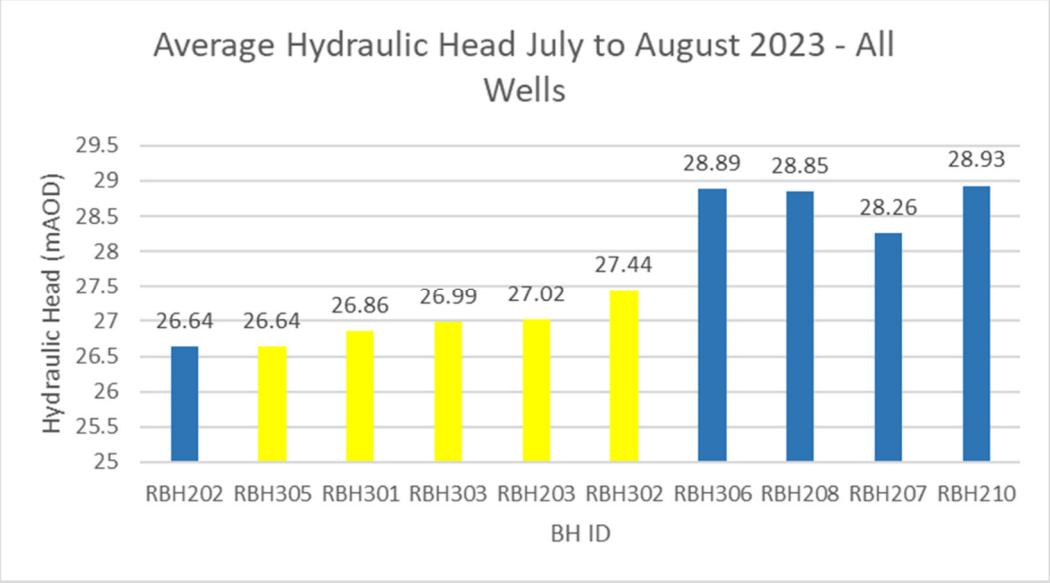
5.3.35 The July to August 2023 monitoring was completed on two separate visits and was carried out in a mixture of monitoring wells screened in the CHES & MM; as such, this monitoring round has been taken as representative of the CHES and MM average hydraulic head in Summer. Chart 5.4 below shows the following:

- Boreholes screened in the MM (blue in the chart) located on Plot NT03 (RBH202) has the lowest head. Boreholes screened in the MM located in the eastern area of site (RBH207, RBH208, RBH210 and RBH306) have the highest heads, likely due to the effect of the thickening of the Till towards the east and that, albeit hydraulically connected, the CHES and the MM aquifers have a different piezometry, due to the geological setting of the site and different hydraulic conductivities of the two formations. Drawing 4328-ROC-ZZ-XX-DR-ES-ES205J provided in Appendix A depicts the groundwater flow contours from the visit undertaken on the 31/08/2023. Generally, the hydraulic gradient appears to be towards the north / northwest in the area of Plot NT04, around the boundary of Plot NT04 and NT03 the predominant flow direction appears to change from north / northwest to west.

- Boreholes screened in the CHES (RBH203, 305, 301, 303 and 302 shown as yellow in the chart) have hydraulic heads within the range of those wells screened within the MM aquifer in the west and east of the site indicating that, albeit hydraulically connected, the CHES and the MM aquifers have a slightly different piezometry, due to the geological setting of the site and different hydraulic conductivities of the two formations.

- The lowest hydraulic head in the CHES aquifer recorded at RBH305 (26.64mAOD) is located in the north of plot NT03 and the lowest hydraulic head in the MM Aquifer recorded at RBH202 is located in the central western portion of Plot NT03. This would suggest there are two separate presiding flow directions within the two aquifers. The MM aquifer displays a gradient sloping to the west in the area of Plots NT02 and NT03 and the CHES aquifer displaying a gradient sloping to the north / northeast.

Chart 5.5 – Average Hydraulic Head July to August 2023 (All Wells)



5.3.36 The groundwater flow field underneath the site displays the following characteristics:

- The groundwater flow within the MM Aquifer is generally directed from east to west in the direction of flow of the River Irk, in hydraulic contact with both aquifers.
- Contours for the CHES indicate a flow direction towards the north-northeast towards the River Irk located 21m to the north of the site at its closest point.

- The piezometric distribution shows monitoring anomalies at RBH306 (high point located in the centre of Plot NT03) and in the RBH202 / RBH305 area (low point located in northwest of Plot NT03).

- The area between the above piezometric anomalies shows an abrupt increase in the groundwater contour spacing, and associated increase in the hydraulic gradient, which is thought to be the effect of the contact between the two aquifers with different hydraulic conductivities.

5.3.37 Monitoring rounds imply that the groundwaters underneath Plot NT02, where the majority of the leachable and groundwater contamination exceedances have been detected, is fluxed by relatively uncontaminated groundwater from the east under a high hydraulic gradient, with a possible associated dilution of the concentrations.

Aquifer Recharge

5.3.38 Recharge can be broadly defined as water that reaches an aquifer from any direction (down, up, or laterally) whilst infiltration refers to water movement from the surface into the subsurface (Scanlon et al., 2002).

5.3.39 The groundwater contour maps presented above show that the aquifer/river relationships between the River Irk and the bedrock aquifer are such that the river is a gaining river; as such there is no aquifer recharge from the river into the aquifer. Therefore, we can assume that the aquifer recharge is solely due to the infiltration.

5.3.40 For the climate period 1991-2000, the annual rainfall at the Woodford station is estimated to be 864.40mm/year (Section 2.2.2).

5.3.41 The UK average evapo-transpiration losses are typically 40%. Approximately 95% of the site is anticipated to be hardstanding and / or covered by buildings in the final development, thus increasing runoff. Based on the site topography, it is feasible for there to be a small quantity of surface water runoff to the northwest in the direction of the River Irk. The remaining area (5%) will be soft cover facilitating widespread infiltration.

5.3.42 Based on the above assumptions, the infiltration (aquifer recharge) has been estimated to be approximately 20% of the total rainfall, and therefore ~173 mm/year.

6.0 Contamination Assessment

6.0.1 The results from all phases of ground investigations have been used to complete a refined assessment of risks posed by ground contamination and ground stability issues beneath the site, building on the preliminary conceptual site model (CSM) and environmental risk assessment outlined in the Phase 1 Desktop Study. The current assessment considers the above risks both in terms of the site's current arrangement and usage, as well as any potential future development (and associated construction process).

6.0.2 The assessment has been collated with reference to various statutory and non-statutory guidance documents relating to land contamination and ground stability. Specifically, the assessment has been conducted in accordance with the Environment Agency Land Contamination Risk Management (LCRM) guidance relating to the "Tier 2 Generic Quantitative Risk assessment" process (revised April 2021).

6.0.3 In accordance with this method, a refined Conceptual Site Model has been prepared based on the results of the ground investigations findings This model is based around the Source / Pathway / Receptor methodology as outlined in Figure 6.0 and detailed in Appendix J.

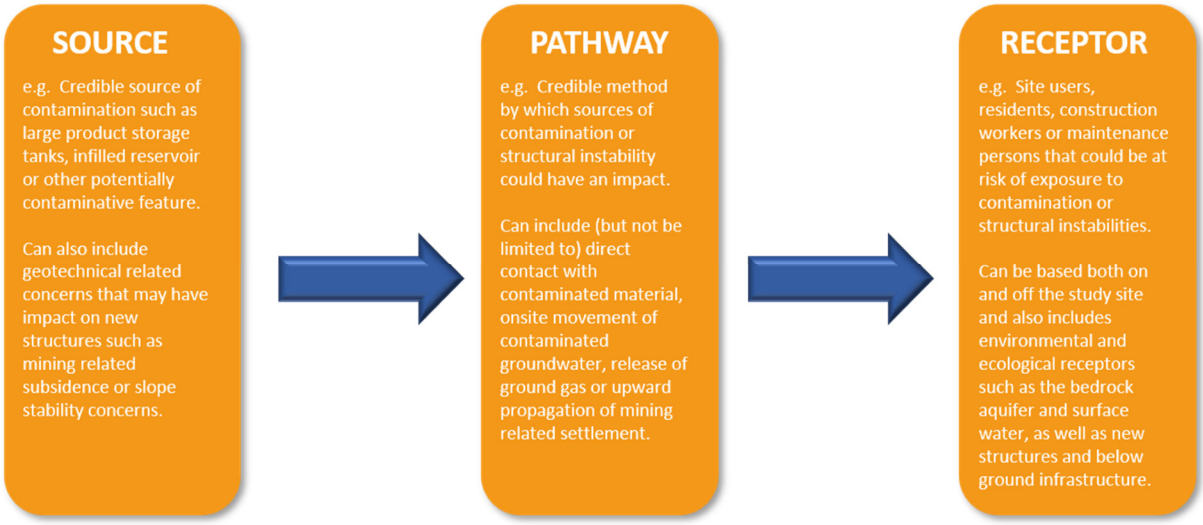


Figure 6.0 Source Pathway Receptor Diagram

6.1 Refinement of the conceptual site model

6.1.1 The ground conditions encountered during the investigation generally confirmed the geological succession anticipated in the preliminary conceptual site model (CSM). The majority of the site has a surface covering of concrete and tarmac within and outside of buildings which is typically underlain by Made Ground of granular demolition fill type material, becoming a gravelly clay with depth. Made ground thickness was variable across the site with maximum thicknesses of 3.0 m in Plot NT02, 10.5 m in Plot NT03 and 9.0m in Plot NT04.

6.1.2 Superficial deposits of River Terrace Deposits described as sand or sandy gravel, were encountered in the south of Plot NT03, possibly extending on to the west of Plot NT04 with a thickness of at least 4.8 m and a maximum unproven thickness of 10.1 m in one location. Devensian Till described as a sandy and gravelly clay becoming stiffer with depth, was encountered in all three plots generally thickening west to east with maximum thicknesses of 2.6 m, 4.5 m and 8.2 m in Plots NT02, NT03 and NT04 respectively. The Till was noted to be absent in the west of Plot NT02 where the made ground was directly underlain by bedrock and the south of NT03 where River Terrace Deposits were encountered.

6.1.3 In Plot NT02, sandstone bedrock of the Chester Formation (CHES) was encountered beneath Made Ground in the west and Devensian Till deposits in all other locations with a proven thickness of 4.8 m to 13.8 m. In Plot NT03, the CHES was underlain by Till in all locations with the exception of RBH401 and RBH403 located in the southeast where mudstone was found to underly the River Terrace Deposits. The encountered thickness of the CHES in Plot NT03 was 1.0m to 9.3m. The upper horizons of the CHES were encountered to be significantly weathered and are effectively sand for up to the first 6.0 to 8.0 m. Bedrock of the CHES was encountered in only one location at the western edge of NT04 at RBH206 with a thickness of 6.32 m.

6.1.4 The Manchester Marls Formation (MM) was proven to underly the CHES to the maximum drilled depth of 25.00 m bgl. On Plot NT04 the MM was found to directly underly the superficial deposits. The MM was found to comprise a reddish brown mudstone with layers of sandstone and siltstone and is shown to dip towards the west of Plot NT02 with the lowest surface elevation recorded at RBH502.

6.1.5 The CHES is designated as a Principal aquifer. The nearest down gradient surface water receptor is the River Irk located 21 m to the north of the site and is reported to be of low water quality (Grade E). The Principal aquifer is considered to be the primary controlled waters receptor associated with the site. The primary human heath receptors are considered to be current commercial site users and future residents. The Holt Brewery was 533m to the west of the site where water is abstracted from groundwater for use in breweries/wine process water, however the abstraction is not deemed to be at risk as the dominant groundwater flow withing the CHES is to the north east away from this receptor.

6.1.6 Groundwater monitoring indicates two aquifers underlying the site in the CHES and underlying MM. Groundwater contours indicate that groundwater within the MM flows generally from east to west following the topography of the Manchester Marl and in the direction of flow of the River Irk. Contours for the CHES indicate a flow direction towards the north-northeast towards the River Irk located 21m to the north of the site at its closest point. Whilst there is likely some connectivity between the two aquifers, it is likely that mobile dissolved phase contaminants will migrate predominantly within the high conductivity weathered sandstone of the CHES, a Principal aquifer.

6.1.7 Soil and groundwater sampling across the site has identified the following sources:

- Made Ground found to contain elevated heavy metals, PAH and asbestos at locations across all three Plots.
- Made Ground soils associated with the Network Rail Mound.
- Diffuse soil contamination by trichloroethene (TCE) in the south of Plot NT02 in the location of the historic bolt works, possibly extending to the east onto Plot NT03.
- Dissolved phase TCE and its daughter compounds dichloroethane (DCE) and vinyl chloride (VC) in groundwater within the CHES with highest TCE concentrations underlying the soil TCE source in the south of Plot NT02 and extending as a plume to the north across NT02 and the north east into the western area of Plot NT03.

- Dissolved phase petroleum hydrocarbons and benzene in groundwater within the CHES and underlying shallow MM in the west and north of Plot NT02.

6.1.8 TCE is heavier than water and has a relatively low solubility limit and therefore can be present in groundwater as a dense non aqueous phase liquid (DNAPL), however numerous rounds of groundwater monitoring with an interface probe have not encountered any measurable DNAPL thickness. Due to the more cohesive nature of the MM mudstone underlying the CHES, it is likely that any DNAPL present would accumulate on the surface of the MM. Surface contours for the MM presented on figure 4328-ROC-ZZ-XX-DR-ES-ES204B show that the MM dips towards the west with the lowest point recorded at RBH502 located in the southwest of Plot NT02, approximately 20m to the west of RBH203 where the maximum dissolved phase TCE was detected. No evidence of DNAPL was encountered at RBH502 P2 installed within the top of the MM formation with dissolved phase TCE concentrations of 4 µg/l, significantly below the maximum concentration of 572 µg/l recorded at RBH203. The presence of dissolved phase TCE extending in the CHES to the north and east of RBH203 with the highest concentrations of the daughter compounds DCE and VC in the north of Plot NT02 supports the groundwater flow direction from contours based on the more recent and more comprehensive monitoring within the CHES towards the north-northeast.

6.1.9 Aliphatic and aromatic hydrocarbon bands C12-C16 and benzene were detected in groundwater samples from RBH502 P1 (CHES) and P2 (shallow MM) located along the southwest boundary of the site. TPH and benzene was also detected in the north of the Plot NT02 site at RBH505 P2 (shallow MM), RBH301 (CHES) and LKBH01 (across CHES and shallow MM), however the profile of the TPH fractions detected in the north of the site differ from those at RBH502 indicating that these contaminants are likely to be from a different source. Historically, the northwest area of Plot NT02 has been the location of industrial buildings and labelled as containing tanks on maps dated late 1940's to early 1950's, associated with either the Collyhurst Foundry or the Rubber Works located immediately west/gas works to the south. It is possible that the source of the benzene plume in this area is located on-site, however, there is negligible concentrations of benzene reported within the unsaturated soils. As such, it is more plausible that the source is located off-site perhaps relating to the historic rubber works to the west which would be consistent with the groundwater flow direction in the sandstone aquifer to the north-northeast.

6.1.10 With respect to the distribution of the lower permeability Till deposits noted to overly both the CHES and underlying MM formation, boreholes (namely BH207, BH209, BH208, BH306, BH303, BH203 & BH502 running northeast to southwest through the site) are stated to comprise a predominantly cohesive layer varying between 1.1 and 8.2m (average 4.07m). This Till layer appears to reduce in thickness from northeast to southwest, becoming more granular in nature towards the southwest corner in accordance with the appearance of the CHES, as is also noted in groundwater monitoring results and associated hydrogeological gradients. Corresponding groundwater chemical testing data from wells sealed into the MM across Plot NT04 (upgradient of plot NT02) do not indicate any levels of benzene and lighter TPH fractions (all of which were noted below limits of lab detection). Low levels (below GAC) of mid range TPH aromatic fractions were noted in RBH306 approximately 100m east of RBH502 on Plot NT03 within the MM but no benzene was detected. This lack of evidence of contamination in the upgradient plots and the presence of thicker low permeability Till in Plot NT03 and Plot NT04 upgradient of RBH502 limiting vertical migration into the underlying aquifer reduces the likelihood that the source of the benzene is located to the east of Plot NT02.

6.1.11 In addition to the above, the groundwater elevation within the MM suggests that in the west of the site the deeper MM groundwater table is recorded above the upper surface of the MM (resting within the CHES).

There is the potential that fractured layers of mudstone permitting groundwater flow within the MM are being confined by less fractured/more competent shallower bands of mudstone in the upper reaches of this MM bedrock layer. As such, these more competent shallow mudstone layers are acting to confine the deeper groundwater within the MM, which in turn, would restrict the downward migration of any contamination from the sandstone above.

6.1.12 It is noted that it is unusual that the lighter TPH fractions/benzene appear to be primarily within the deeper marl rather than the overlying sandstone which may indicate it is more likely to be due to an off-site source such as the historic rubber works to the west and/or the gas works to the south. This is supported by the distribution of the TCE groundwater plume which is from a known on-site source and which has remained predominantly in the sandstone aquifer and has not significantly penetrated into the marl. Information from Manchester City Council (MCC) planning portal relating to the Gould Street gas works located beyond the railway line and Bromley Street to the south of Plot NT02 reports free phase tar was encountered at depth in the vicinity of the gas holders and tar tanks in the north of the site approximately 50 to 80 m from Plot NT02. Since benzene is likely to form a component of gas works tar, this is considered to be the likely source of the dissolved phase benzene and TPH detected at depth at BH502 P2 in the southwest of Plot NT02.

6.1.13 The following pollutant linkages are considered to remain potentially complete and require further assessment by GQRA:

- On site made ground soil contamination (Heavy metals, PAH, TPH and asbestos in made ground and from historic site usage - boltworks) – Current commercial site users and future residential site users - direct contact in areas of public open space – ingestion, dermal, dust/fibre inhalation and ingestion.
- On-site contamination (VOC in unsaturated soils and from historic site usage - boltworks) – Current commercial site users and future residential site users – inhalation exposure with impacted soil and groundwater.
- On-site contamination (VOC in unsaturated soils and from historic site usage - boltworks) – adjacent residential, industrial and commercial users – migration of potentially impacted groundwater – inhalation of vapours.
- On-site contamination (made ground, and from historic site usage - boltworks) - current/future buildings and services - direct contact with contaminated soils or groundwater - chemical attack.
- On-site contamination (Heavy metals, PAH, TPH, in made ground and VOC in unsaturated soils from historic site usage - boltworks) – Principal and Secondary B aquifers – leaching from soils/ percolation to aquifer/ lateral migration of dissolved phase etc.
- On-site made ground - ground gas (methane and carbon dioxide) - current/ future site users – commercial / residential users - migration and ingress of ground gases into buildings, build-up in confined spaces and explosion/ asphyxiation
- On-site made ground - ground gas (methane and carbon dioxide) - current/ future buildings and services - migration and ingress of ground gases into buildings, build-up in confined spaces and explosion
- Off-site sources of ground gas (methane and carbon dioxide) - current/ future commercial / residential users - migration and ingress of ground gases into buildings, build-up in confined spaces and explosion/ asphyxiation

6.2 Soil Contamination

6.1.1 In order to consider the risks posed to human health from soil contamination, a quantitative risk assessment has been completed utilising the latest Environment Agency CLEA methodology. The assessment utilises the chemical testing results obtained during the site investigation fieldworks to characterise site conditions and facilitate the completion of the risk assessment process.

6.1.2 The assessment is based on the comparison of soil chemical testing results with published Environment Agency Category Four Screening Levels (C4SL's) under the proposed end use scenario to determine the sites suitability for use. C4SL values represent the highest acceptable values for contaminants within site soils under the proposed end use and are derived using the Environment Agency CLEA risk assessment methodology. A result in exceedance of a C4SL level may indicate the presence of contaminants within site soils and require further assessment.

6.1.3 It is noted only a limited number of C4SL values have been derived by the Environment Agency for use, and reference has been made to LQM/CIEH Suitable For Use Values (S4UL's) for a wider range of other contaminants (Heavy Metals, Poly Aromatic Hydrocarbons, TPH, SVOC and VOC's) to increase the depth and robustness of our assessment.

6.1.4 Chemical testing results are compared against C4SL and S4UL values for each determinant with any results reported in exceedance of screening criteria identified and their significance reviewed. When determining the significance of any exceedances within the dataset the magnitude and frequency of the exceedance needs to be taken into account, for example, a single exceedance of a screening value may be considered as localised hotspot whereas consistently elevated levels of a substance at multiple locations across the site may indicate a more prevalent contamination issue.

6.1.5 In addition to this assessment, an Asbestos Identification test (via the visual inspection method) has been completed on all samples of made ground obtained during the investigation to determine risks posed. Any positive occurrences of Asbestos have been subject to quantification analysis to further assess the extent and significance of risks posed.

6.1.6 As required, for each exceedance reference will be made to the Conceptual Site Model to establish the most likely source of contaminants and initial commentary given as to the likely scope of remedial measures. In addition, reference will also be made to the assumptions used to derive generic assessment criteria (C4SL and S4UL values) to determine their comparability with the proposed end use.

Summary and Assessment of Potential Risks Posed by Soil Contamination

6.1.7 It is understood that whilst the proposed development is to be surfaced predominantly with hardstanding/building footprint, there are some discrete areas of soft landscaping proposed across the site. While the proposed landscaped areas in Plot NT02 are to comprise small islands of green planting, relatively substantial swathes of communal greenspace are proposed across Plots NT03 and 04. In order to assess the soil contamination concentration results against the appropriate screening criteria, the results have been split into appropriate data sets according to the sample setting within the proposed development plan.

The datasets being considered in the assessment are:

- data set 1 areas beneath hardstanding/building footprint within the proposed development – commercial end use

- data set 2 areas within soft standing within the proposed development – public open space end use

6.1.8 As an initial assessment, soil results for each data set have been compared against the relevant screening for the proposed end use of the areas of site from which they are derived. Data set 1 has been directly compared against screening criteria for commercial end use, considered most appropriate given the development layout, which is to comprise commercial units at ground level, with high rise residential above. Data set 2 has been directly compared against the screening criteria for public open space (public park), considered most appropriate given that soft landscaped areas are proposed in communal use. The use of both commercial and public open space GACs for the site have been agreed with Manchester City Council and the Environment Agency, correspondence is included in Appendix H.

Data set 1 – commercial end use

6.1.9 Exceedances of contaminants in soils from data set 1 are presented in the tables below, separated into the principal plot areas based on current land uses. Asbestos identifications and quantifications across all plots are summarised in a separate table later in this section.

Table 6.0: Summary of Commercial GAC Exceedances – Plot NT02

BH ID	Depth (m)	Determinants Exceeded and Determinants Reported with No GAC
Phase 2a Site Works		
TP202	0.50	Heavy Metals – Lead (7,660mg/kg), PAH –Benzo(b)fluoranthene (47.8mg/kg), Dibenzo(ah)anthracene (6.23mg/kg)
Phase 2e Site Works		
WS303	1.20	Heavy Metals – Lead (6640mg/kg)
WS308	1.00	VOC – Trichloroethene (1.13mg/kg)
Phase 2f Site Works		
RBH502	1.00	Heavy Metals – Lead (3610mg/kg)

6.1.10 When comparing data set 1 samples to relevant screening criteria, there is evidence of contamination in (unsaturated) soils beneath the southern warehouse within Plot NT02, primarily comprising lead, with PAH exceedances detected within a single position. Generally, there is no clear pattern to the distribution of these contaminants across the Plot, either laterally or with depth, indicating that the source of these contaminants may have arisen as a result of long-term industrial operations on site. There has been a high density of sampling and testing beneath the warehouse as part of a TCE contamination delineation exercise. Whilst soil TCE concentrations were only seen to exceed relevant screening criteria within one location (WS308 at 1.00mbgl) it should be noted that concentrations above the limit of detection were detected within unsaturated soils within almost all exploratory holes positioned beneath the warehouse. It is considered that the source of TCE contamination may be from historical use of lubrication or degreasing agents in bolt making operations and their leakage over time into soils through floor slabs or drainage networks.

6.1.11 The distribution of TCE concentrations across the site is indicated in the drawing 4328-ROC-ZZ-XX-DR-ES-ES208, presented in Appendix A, indicating the maximum concentration in each location and locations where it was tested but not detected.

Table 6.1: Summary of Commercial GAC Exceedances – Plot NT03

BH ID	Depth (m)	Determinant/s Exceeded
Phase 2f Site Works		
RBH504	1.50	Heavy Metals – Lead (44100mg/kg)
RBH504	1.90	Heavy Metals – Lead (3020mg/kg)

6.1.23 Concentrations of lead within the made ground soils of RBH504 have been determined to exceed relevant screening criteria, additional elevated concentrations of lead were recorded within several other locations across this Plot. The source of lead contamination is likely attributable to a combination of the makeup of the made ground (demolition fill material) and the historic site uses in this area which included a foundry and bolt works.

6.1.13 Though no exceedances were observed, elevated PAH concentrations above the limit of detection were recorded at several locations, thought to be associated with ash and clinker that was noted to be in made ground across the area. No contaminant concentration exceedances were observed within soil samples collected from the network rail mound and former Ryan Topsoil Mounds when compared to relevant screening criteria for a commercial end use.

Table 6.2: Summary of Commercial GAC Exceedances Plot NT04

BH ID	Depth (m)	Determinant/s Exceeded
Phase 2 Site Works		
TP216	1.20	Heavy Metals – Lead (12,000mg/kg),
TP218	0.50	Heavy Metals – Lead (1,560mg/kg)
WS209	0.40	Heavy Metals – Lead (18,100mg/kg)

6.1.14 Lead contamination again appears to be generally widespread across NT04 within made ground deposits. This is likely attributable to a combination of the makeup of the made ground (demolition fill material) and the historic site uses in this area which included a print works.

Data set 2 – public open space end use

6.1.15 Exceedances of contaminants in soils from data set 2 are presented in the tables below for Plots NT03 and NT04 which will contain areas of soft landscaping in the final development. Asbestos identifications and quantifications across all plots are summarised in a separate table later in this section.

Plot NT03

6.1.16 When comparing data set 2 samples to screening criteria for a public open space end use, none of the samples from Plot NT03 contained contaminant concentrations exceedances exceeding screening criteria.

Table 6.3: Summary of Public Open Space GAC Exceedances - Plot NT04

BH ID	Depth (m)	Determinant/s Exceeded and Determinants Reported with No GAC
Phase 2a Site Works		
TP214	0.80	Heavy Metals – Lead (3,920mg/kg)
	1.00	Heavy Metals – Lead (19,000mg/kg)
TP217	0.50	Heavy Metals – Lead (8,900mg/kg)
TP219	0.50	Heavy Metals – Lead (1,840mg/kg)

Asbestos

6.1.17 Positive identifications of asbestos have been made across all plots, and where this has occurred, results have been quantified as shown in the table below.

Table 6.4: Positive Identifications of Asbestos by Plot

Location	No. samples tested	No. samples with positive asbestos identification	Asbestos type/form	Asbestos quantification range (%)
Plot NT02	25	10	Chrysotile, amosite, anthophyllite and crocidolite loose fibres	<0.001 - 0.013
Plot NT03	14	5	Amosite and Chrysotile loose insulation/loose fibres Chrysotile cement (visible)	0.002 – 0.007 2.563
Earth stockpiles in former Ryan Topsoil yard	3	0	N/A	N/A
Soils in current Network Rail Mound	13	0	N/A	N/A
Plot NT04	27	3	Chrysotile and amosite loose fibres	<0.001 – 0.007

6.1.18 The majority of positive asbestos samples are located beneath areas of proposed hardstanding/building footprint. Out of 76 samples analysed, 16 returned positive results, equating to just over 20%. Of these 16 positive asbestos samples, all but 1 sample reported a mixture of chrysotile, amosite, anthophyllite and crocidolite loose fibres and loose insulation at quantification levels between <0.001% (below the laboratory limit of detection) and 0.013%. A single sample from TP203 at 1.20m bgl, located within Plot NT03, reported a visible piece of asbestos chrysotile cement with a quantification value of 2.563%.

6.1.19 A lesser number of samples located within areas of proposed soft landscaping were analysed for the presence of asbestos (7 samples) and of these samples, 2 samples returned positive asbestos results, equating to almost 30% of tested samples. Both positive samples reported the presence of chrysotile loose fibres at quantification levels of 0.007% for a sample from Plot NT04 and 0.002% for a sample from

Plot NT03

Soil Vapour

6.1.20 To further assess the risks posed by volatile organic compounds in the location of the southern warehouse, we have undertaken direct testing of soil vapour sampled from three locations. These have been tested by a UKAS accredited laboratory for a suite of Volatile Organic Compounds and results of the testing are presented in Appendix C. In the absence of more established assessment criteria, we have assessed the results to Generic Assessment Criteria (v-GAC) developed internally by RSK for the assessment of indoor human health exposure. A copy of these, explaining their derivation, are presented in Appendix I.

Table 6.5: Summary of Soil Vapour Concentrations

	Residential GAC	Commercial GAC	WS303	WS309	WS301
Benzene (C4SL)	3740	47000	363.2	109	-
Toluene	1580000	47007000	219	250	-
Ethylbenzene	83100	2488000	164.1	54.7	-
Xylenes	62300	1967000	255.8	114	-
Trimethylbenzenes	1900	64000	161	11.8	-
Naphthalene	820	28000	14.6	2.2	-
Vinyl chloride (C4SL)	6500	192000	6.4	-	-
Tetrachloroethene (PCE) (C4SL)	11000	274000	45.4	79.4	-
1,1,1-Trichloroethane	679000	86000	9.8	-	-
Trichloroethene (TCE) (C4SL)	1360	20165000	129726	100265	2393
1,1-dichloroethane	226000	163000	-	7.5	-
1,1-dichloroethene	65000	6720000	19.8	-	-
Chloroethane	3234000	1915000	-	4.7	-
Chloromethane	2900	96011000	-	8.9	-
cis-1,2-dichloroethene	6500	86000	531	250	-
trans-1,2-dichloroethene	19000	4346000	46	30.9	-
Trichloromethane (chloroform)	43000	568000	3722.7	2160	72.3
Highlights indicate exceedance of GACs, all units ug/m3					

6.2 Assessment of Soil Contamination

General

6.2.1 Exceedances of human health criteria have been observed in shallow Made Ground across all three plots, predominantly comprising lead, with PAH exceedances at a single location (TP202) at Plot NT02. In addition, a single exceedance of soil TCE concentration was observed in WS208 within the Made Ground beneath the warehouse at Plot NT02. Lead in particular is frequently identified at an elevated concentration at sites with a former industrial land use. The recorded concentrations are typical of Made Ground in previously developed brownfield sites and could be attributable to either the former site activities (including a foundry and bolt works in NT02, iron works in NT03 and print works in NT04), or of demolition fill material.

6.2.2 The scheduled laboratory screening for asbestos found detectable asbestos fibres within 18 samples of made ground across all three Plots. However, asbestos was not identified in samples obtained from the earth stockpiles in the former Ryan Topsoil yard or in the Network Rail Mound. Asbestos (at microscopic level) was present as chrysotile, amosite, anthophyllite and crocidolite loose fibres, and chrysotile loose insulation. Subsequent asbestos quantification detected a maximum value of 0.013 % (chrysotile and anthophyllite loose fibres) by weight present in the sample from WS308 at 1.00 m. Visible asbestos in the form of chrysotile cement was identified in TP203 at 1.20m bgl in Plot NT03. The majority of the site is proposed to be surfaced with hardstanding, and in these areas the risk to future site users from ACM within the made ground soils beneath the site is considered to be low due to the absence of a viable pathway. However, where areas of soft standing are proposed, there remains a risk of asbestos exposure to future site users. Where areas of soft standing are proposed, remediation measures will be required, most likely comprising a clean cover system, involving a placement of a minimum of 600 mm of either topsoil/subsoil or suitable compacted gravel is placed over a geotextile separation/marker layer. Appropriate health and safety precautions during the construction phase will need to be incorporated to protect construction workers.

Chlorinated Solvents

6.2.3 Following identification during the initial RoC Consulting site investigation of Trichloroethene exceedances in groundwater and limited observations in soils, the supplementary Phase 2e GI works incorporated extensive additional testing of soils beneath the southern warehouse, for the purpose of identifying the potential extents of any contamination plume in this area, or other source. While no specific point source has been observed, the testing has identified widespread Trichloroethene contamination of soils in in the south of Plot NT02, extending east into the southwestern area of Plot NT03, including a majority of the Made Ground soils tested in this location.

6.2.4 The distribution of these and surrounding testing is such that we cannot yet conclusively delineate the extent of the area of contamination, although potential estimates of the extent, and the exceedances themselves, are shown on Drawing 4328-ROC-ZZ-XX-DR-ES-ES208 in Appendix A. Other Chlorinated Solvents, such as Dichloroethene, Vinyl Chloride and Carbon Tertrachloride have also been detected, albeit less often and at significantly lower concentrations. Generally, these are anticipated to be either related to or daughter products of Trichloroethene and assessment of risks relating to these is

encompassed in the risk assessment and remedial recommendations below.

6.2.5 Chlorinated solvents, such as Trichloroethene (also called Trichloroethylene) and Vinyl Chloride are relatively commonly occurring and remediated contaminants in the UK, particularly in groundwater. They are a category of Volatile Organic Compound containing Chlorine. Typically, Trichloroethene degrades sequentially in the environment to Dichloroethene and Vinyl Chloride, themselves also harmful halocarbons. This is caused by a type of bacteria called Dehaloccoides in specific conditions: typically, anaerobic with low to medium pH.

6.2.6 Chlorinated solvents were first widely produced in the 1920s and were used intentionally rather than as by-products of other industrial processes due to their ability to dissolve a large variety of organic compounds in industrial processes.

6.2.7 Trichloroethene was extensively used as a dry-cleaning fluid as well as in the chemicals industry and was most widely used as a degreasing agent for metal components.

6.2.8 There have been onsite land uses which could potentially have used chlorinated solvents. In particular they might have been used as degreasing agents at **Victoria Screw & Bolt Works / Collyhurst Foundry.** The smithy in NT02 and Scrap Works at NT03 are also potential sources although those works were of a smaller scale. If these compounds were used in significant quantities, it is likely they would have been stored onsite, although below ground storage is considered to be unlikely.

6.2.9 While other uses of chlorinated solvents are highly specific, degreasers have a wider variety of applications across a number of industrial land uses, and the local area has an extensive history of industrial development, not all of which will be documented.

6.2.10 Drawing upon our assessment of the offsite history, as well as the nearby offsite site investigation reports we have assessed, the likelihood of these originating from offsite sources is assessed in the table below. The assessment has focused on the closest and most intensive recorded historical offsite industrial land uses.

Table 6.6: Assessment of Chlorinated Solvent Source

Land Use	Distance	Likelihood of chlorinated solvent use	Likelihood of affecting the site
Railway viaduct	Adjacent to south	Low – low intensity industrial land use	Very low, less feasible than onsite hypothesis
Rubber Works / Parker Street Mills	5 – 70m west	Moderate – chlorinated solvents were used to clean rubber works machinery and are listed as an associated contaminant by the relevant DOE profile. The previous site investigation did not test for relevant compounds (VOCs) and did not undertake testing of groundwater. Architectural plans of the rubber works do not indicate the presence of a tank, although this is not	Moderate – adjacent to site, spread through groundwater would be perpendicular to hydraulic gradient

Land Use	Distance	Likelihood of chlorinated solvent use	Likelihood of affecting the site
		unusual. Site development underway and may have resulted in betterment. If further sources of contamination are identified during construction this should be highlighted through validation process.	
Gas Works	10m north	Low – chlorinated solvents are not a core part of gas works operation and would be limited to cleaning operations. Their presence is not indicated by the relevant DOE profile.	Low – limited evidence of presence and spread to site would be against hydraulic gradient
Gas Works	50m south	Low – chlorinated solvents are not a core part of gas works operation and would be limited to cleaning operations. Site has been subject to limited remediation. Their presence is not indicated or suggested by previous site investigations or the relevant DOE profile.	Low – feasible pathway but limited evidence of presence
Gas Works / Chemical Works / Print Works	65 -100m northwest	Moderate – chemical works is associated with a broad range of contaminants	Low – distance from site and spread to site would be against hydraulic gradient
Chemical Works / / Button Manufactory / Metal Foundry / Timber Yard / Engineering Works / Scrap Works	100 – 200m west	Moderate – chemical works is associated with a broad range of contaminants	Low – distance from site and spread to site would be against hydraulic gradient
Union Bridge Iron Works / Chemical Works / Oil Works	160 – 220m west	Moderate – chemical works is associated with a broad range of contaminants	Low – distance from site and spread to site would be against hydraulic gradient
Dye Works	180m northeast	Moderate – dye works is associated with a broad range of contaminants and chlorinated solvents are listed as an associated contaminant by the relevant DOE profile	Low – distance from site and spread to site would be against hydraulic gradient
Gas Works	200m northeast	Low – chlorinated solvents are not a core part of gas works operation and would	Very low – limited evidence of presence, distance from site and

Land Use	Distance	Likelihood of chlorinated solvent use	Likelihood of affecting the site
		be limited to cleaning operations.	spread to site would be against hydraulic gradient
Potentially unrecorded land uses	N/A	Moderate – relatively widely used compound in mid to late 20th Century	Difficult to attribute contamination to this source in the absence of positive evidence

6.2.11 Having considered potential sources of Trichloroethene arising on and across adjacent sites we are of the view the mostly likely source of any chlorinated solvent contamination will relate to historic Bolt Works located in Plot NT02 and the southwest of Plot NT03.

6.2.12 As previously noted, no specific storage tank feature or other potential point source of the Trichloroethene has been noted on site (via review of historical map, aerial imagery or contemporary site observations). As such it is likely the contamination noted beneath the existing warehouse structures on Plot NT02 relates to a diffuse source, arising as a result of the operation of the former Bolt Works and bulk storage of degreasing agents that had the potential to migrate into the underlying soils via cracks or damage to the floor slab or drainage networks (or its storage / use on bare ground).

6.2.13 However, the presence of relic below ground storage features cannot be fully precluded at this time owing to the fact the warehouse building is still present on site and partially in operation. As such the presence of relic storage tank features or other concentrated sources of Trichloroethene (such as drums, relic supply infrastructure or grossly TCE impacted waste material) may still be present beneath this portion of the site).

6.2.14 The findings of the above have been used to update the Refined Conceptual Site Model (provided within Section 7.0).

6.3 Ground Gas Risk Assessment

6.3.1 The Preliminary Conceptual Site model identified made ground as being a potential source of ground gas generation. The site is not said to be located within in an area at risk from Radon gas ingress (Section 2.2).

6.3.2 The Scope of Ground Gas monitoring was designed taking in to account the sites previous operations and the proposed site development and structure layout. The ground gas risk assessment has been undertaken in accordance with BS8576-2013 and CIRIA C665. The risk assessment has been founded on the following Conceptual Exposure Model reviewed below in Table 1.

Table 6.7: Ground Gas Conceptual Model

Source	Pathway	Receptor
Site-wide made ground deposits from historic development. Potentially containing ground gasses (CH_4, CO_2, H_2S, CO) and reduced levels of O_2	Ground Gas migration and entry into buildings via structure defects or construction joints in floor slabs and/or service entry points, resulting in accumulation and explosion/ poisoning/ asphyxiation	Future site/construction workers; Future site employees/occupiers of future buildings

6.3.3 It is presumed there will be no considerable change to existing site Ground Gas levels because of the development, and that the proposed structures will undergo traditional construction including a ground bearing floor slab. In addition, it is understood a basement is proposed on Plot NT04 beneath one of the proposed towers. However no other deep below ground structures (outside drainage runs) are proposed beneath the site.

6.3.4 Risk Assessment methodology according to CIRIA 665 requires classification of developments as Situation A or Situation B, where Situation B comprises Low rise housing with a ventilated underfloor void and is subject to different assessment methodology. The development is classified as Situation A.

NT02 & NT04

6.3.5 A total of 6 visits of Ground Gas monitoring round have been completed the results (Appendix E). A summary of results is reported below:

- Maximum CH_4 Value = 0% volume
- Maximum CO_2 Value = 13.4% volume (WS204) on 25th August 2022
- Minimum O_2 Value = 0.6% volume (LK WS103) on 25th October 2022
- Maximum flow rate = 3.3l/s (LK WS201) on 14th October 2022
- H_2S and CO values 0ppm for all measurements
- Variable atmospheric pressures between 992 and 1016Mb

6.3.6 Monitoring works were completed during the period between 25th August 2022 to 28th October 2022 under varying atmospheric pressure conditions including falling. The works were completed using a GFM 435 portable gas analyser which was suitably calibrated by the supplier throughout the duration of monitoring works (the calibration certification for which can be provided upon request).

6.3.7 Calibration records for gas monitoring equipment are presented in Appendix F.

6.3.8 A standard Ground Gas risk assessment has been undertaken to consider the risks posed to future site users from CO2 and CH4. The assessment undertaken followed guidelines in accordance with the principles outlined in the CIRIA guidance document (Assessing risk posed by hazardous ground gases to buildings, CIRIA C665).

6.3.9 The method used to categorise the site ground gas regime is covered in the CIRIA C665 document and defines gas concentrations and borehole flow rates to calculate a gas volume flow (Gas Screening Value) and classify a characteristic situation.

6.3.10 Gas Screening Values (GSVs) have been calculated using the formula:
GSV (l/hr) = borehole flow rate (l/hr) x gas concentration (v / v %) / 100

6.3.11 This calculation has been applied to the maximum Carbon Dioxide and flow rates recorded of the course of monitoring to represent a reasonable worst-case scenario for the entire site. In most cases, ground gas measurements from the site found no change in flow rates which remained at 0.0% for each of the six measurement visits. Where this has occurred a nominal flow rate of 0.1l/hr has been adopted for calculation purposes.

Table 6.8: Summary of GSVs

Monitoring Visit	Highest Flow Rate (l/hr)	Highest CO_2 (% v / v)	CO_2 GSV (l/hr)	Characteristic Situation*
Visit 1	0.0	13.4	0.0134	1 (Very Low Risk)
Visit 2	0.0	11.5	0.0115	1 (Very Low Risk)
Visit 3	3.3	11.4	0.3762	2 (Low Risk)
Visit 4	0.0	9.8	0.0098	1 (Very Low Risk)
Visit 5	0.0	8.9	0.0089	1 (Very Low Risk)
Visit 6	0.0	8.5	0.0085	1 (Very Low Risk)
*Where Characteristic Situation 2 < 0.07l/hr				

6.3.12 In addition to the above, CIRIA665 Table 8.5 also recommends that Characteristic Situation 2 (CS2) is adopted in instances where methane and carbon dioxide concentrations typically exceed the thresholds of 1% and 5% respectively. Given the levels of CO_2 recorded in several of the boreholes on NT02 being above 5% it is recommended that the Characteristic Situation of Plot NT02 alone is upgraded to CS2. On Plot NT04 no such CO_2 concentrations were encountered and therefore Plot NT04 should be classified as CS1.

6.3.13 The worst-case scenario for the site corresponds with Characteristic Situation 2 (low risk), with 'typical Made Ground' the likely source of any ground gas generation. The typical scope of ground gas protection measures recommended for Residential uses under this characteristic level, as detailed in CIRIA 665, should include:

- Characteristic situation 2 – Two levels of protection required, typically to include:

- A reinforced concrete cast in situ floor slab with at least 1200g DPM and underfloor venting.
- Beam and block or pre-cast concrete and 2000g DPM / reinforced gas membrane and underfloor venting.
- All joints and penetrations sealed.

6.3.14 A risk from Volatile Organic Compounds has been identified on Plot NT02. Assessment of this is currently ongoing and it is recommended that the design of gas protection measures is postponed until the risk from vapours originating from VOC contamination has been fully assessed.

Plot NT03

6.3.15 A total of 6 visits of Ground Gas monitoring round have been completed the results (Appendix E). A summary of results is reported below:

- Maximum CH_4 Value = 0.2% volume
- Maximum CO_2 Value = 8.3% volume (WS310) on 31st August 2023
- Minimum O_2 Value = 0% volume (LK WS312) on 11th May 2023
- Maximum flow rate = 0.1l/s (no recorded flow rate during any of the visits).
- H_2S and CO values 1 and 2ppm respectively maximum recorded levels
- Variable atmospheric pressures between 997 and 1024Mb

6.3.16 Monitoring works were completed during the period between 28th April 2023 to 31st August 2023 under varying atmospheric pressure conditions including falling. The works were completed using a GFM 435 and GA5000 portable gas analyser which was suitably calibrated by the supplier throughout the duration of monitoring works.

6.3.17 Calibration records for gas monitoring equipment are presented in Appendix F.

6.3.18 A standard Ground Gas risk assessment has been undertaken to consider the risks posed to future site users from CO_2 and CH_4. The assessment undertaken followed guidelines in accordance with the principles outlined in the CIRIA guidance document (Assessing risk posed by hazardous ground gases to buildings, CIRIA C665).

6.3.19 The method used to categorise the site ground gas regime is covered in the CIRIA C665 document and defines gas concentrations and borehole flow rates to calculate a gas volume flow (Gas Screening Value) and classify a characteristic situation.

6.3.20 Gas Screening Values (GSVs) have been calculated using the formula:
GSV (l/hr) = borehole flow rate (l/hr) x gas concentration (v / v %) / 100

6.3.21 This calculation has been applied to the maximum Carbon Dioxide and flow rates recorded of the course of monitoring to represent a reasonable worst-case scenario for the entire site. In most cases, ground gas measurements from the site found no change in flow rates which remained at 0.0% for each of the six measurement visits. Where this has occurred a nominal flow rate of 0.1l/hr has been adopted for calculation purposes.

Table 6.9: Summary of GSVs

Monitoring Visit	Highest Flow Rate (l/hr)	Highest CO_2 (% v / v)	CO_2 GSV (l/hr)	Characteristic Situation*
Visit 1	0.1	2.5	0.0025	1 (Very Low Risk)
Visit 2	0.1	2.8	0.0028	1 (Very Low Risk)
Visit 3	0.1	3.5	0.0035	1 (Very Low Risk)
Visit 4	0.1	6.7	0.0067	1 (Very Low Risk)
Visit 5	0.1	7.8	0.0078	1 (Very Low Risk)
Visit 6	0.1	8.3	0.0083	1 (Very Low Risk)
*Where Characteristic Situation 2 < 0.07l/hr				

6.3.22 In addition to the above, CIRIA665 Table 8.5 also recommends that Characteristic Situation 2 (CS2) is adopted in instances where methane and carbon dioxide concentrations typically exceed the thresholds of 1% and 5% respectively. Given the levels of CO_2 recorded in several of the boreholes on Plot NT03 being above 5% it is recommended that the Characteristic Situation of is upgraded to CS2.

6.3.23 The worst-case scenario for the site corresponds with Characteristic Situation 2 (low risk), with 'typical Made Ground' the likely source of any ground gas generation. The typical scope of ground gas protection measures recommended for Residential uses under this characteristic level, as detailed in CIRIA 665, should include:

- Characteristic situation 2 – Two levels of protection required, typically to include:
    - A reinforced concrete cast in situ floor slab with at least 1200g DPM and underfloor venting.
    - Beam and block or pre-cast concrete and 2000g DPM / reinforced gas membrane and underfloor venting.
    - All joints and penetrations sealed.

6.4 Controlled Waters

Soils

6.4.1 Elevated concentrations of heavy metals, TPH and PAH have been detected in soils across the site, due to the absence of limited thickness of Till, particularly in the west at Plot NT02 and Plot NT03 there is the potential for leaching of contamination from unsaturated soils into the underlying CHES principal aquifer and MM Secondary B aquifer, particularly in areas not covered with buildings or hard standing. i.e. proposed areas of public open space.

6.4.2 Additionally, a diffuse TCE source in unsaturated soils has been identified beneath the warehouse in the southern portion of Plot NT02, extending into the southwest of Plot NT03, in an area where historic industrial activities including the bolt works and foundry were located. The leaching potential of the soils was initially investigated in the July 2022 and April 2023 site investigations by the analysis of 12no. soil leachate samples This was later supplemented in subsequent phases of site investigation by groundwater sampling from locations across the site and an additional 3no. soil leachate samples from the Network Rail mound in November 2023.

Soil Leachate

6.4.3 A total of 6no. soil samples from the July 2022 investigation and 6no. soil samples from April 2023 from locations across the NT02 and NT04 sites have been submitted for leachate analysis for heavy metals, VOC, PAH, PCBs and hydrocarbons and the results screened against appropriate target concentrations (Drinking Water Standards). An additional 3no. samples were obtained from the Network Rail mound in November 2023 and submitted for leachate analysis as above.

6.4.4 The soil leachate results found to exceed the GAC are summarised below.

Table 6.10: Summary of Soil Leachate Testing in Exceedance of GACs

Determinands	DWS (µg/l)	No. of tests	No. of Exceedances	Locations of exceedances and Max. Concentration (µg/l)
Plot NT02				
Arsenic (Leachable)	10	9	4	TP202, WS301, WS307, **WS309 (37)**
Lead (Leachable)	10	9	2	TP202, **WS309 (2970)**
Nickel (Leachable	20	9	1	**WS309 (61)**
Sulphate (Leachable)	250,000	9	4	**TP202 (386,870)**, TP203, WS301, WS307
Indeno(1,2,3)pyrene	0.1	9	2	WS202, **WS309 (0.18)**
Benzo(k)flouranthene	0.1	9	2	**RBH203 (0.21)**, WS309
Benzo(g,h,i)perylene	0.1	9	1	**WS309 (0.18)**
Benzo(a)pyrene (Leachable)	0.01	9	3	**RBH203 (0.39),** WS202,

Determinands	DWS (µg/l)	No. of tests	No. of Exceedances	Locations of exceedances and Max. Concentration (µg/l)
				WS309
Benzo(b)fluoranthene (Leachable)	0.1	9	3	**RBH203 (0.54),** WS202, WS309
Carbon Tetrachloride	3	4	1	**WS302 (4)**
Hydrocarbons Aromatic >C10-C12 (Leachable)	90	9	1	**RBH203 (9,761)**
Hydrocarbons Aromatic >C12-C16 (Leachable)	90	9	3	**RBH203 (10,700)**, WS202, WS309
Hydrocarbons Aromatic >C16-C21 (Leachable)	90	9	3	**RBH203 (3,148),** WS202, WS309
Hydrocarbons Aromatic >C21-C35 (Leachable)	90	9	3	**RBH203 (346)**, WS202, WS309
Trichloroethene (TCE)	10	4	2	**WS302 (69)**, WS304
Network Rail Mound				
Arsenic (Leachable)	10	3	2	**RBH403 (16),** RBH402
Lead (Leachable)	10	3	2	**RBH403 (62),** RBH402
Sulphate (Leachable)	250,000	3	2	**RBH403 (480,010),** RBH402
Benzo(a)pyrene	0.01	3	3	**RBH402 (0.05),** RBH403
Hydrocarbons Aromatic >C10-C12	90	3	1	**RBH403 (108)**
Hydrocarbons Aromatic >C12-C16	90	3	1	**RBH403 (162)**
Hydrocarbons Aromatic >C16-C31	90	3	1	**RBH403 (92)**
Plot NT04				
Lead (Leachable)	10	3	2	TP214, **TP216 (141)**
Nickel (Leachable	20	3	1	**TP307 (24)**
Sulphate (Leachable)	250,000	3	1	**TP307 (647,830)**
Notes: Location of maximum concentration for each Plot is shown in bold with the maximum concentration reported in brackets For hexachlorobutadiene and vinyl chloride the laboratory detection limit for leachate testing <1µg/l exceeds the DWS, however all test results were reported below the limit of detection				

6.4.5 Leachate testing of the Made Ground soil across the site has shown the potential for the Drinking Water Standards (DWS) to be exceeded in the underlying groundwater particularly at Plot NT02 and below the NR Mound where numerous exceedances were reported for metals/inorganics, PAH and TPH fractions, with TCE present on Plot NT02 but not beneath the NR Mound. The leachate exceedances detected at Plot NT02 are generally confined to the southern area of the site, underlying the warehouse, while all exceedances at plot NT03 have been detected within samples taken from the Network Nail Mound. At plot NT04 lead has exceeded screening criteria for leachate at two locations in the southwest.

6.4.6 The current earthworks model for the proposed development (RoC drawing ref RDB/ROC/ZZ/XX/DR/C/0612) predicts that a net cut of c. 37,500m^3 will be required to achieve formation levels for the development, indicating that a significant proportion of cut material will be disposed of to landfill.

6.4.7 A cut of up to 2.00mbgl is proposed in the area beneath the existing warehouse at Plot NT02, and whilst leachate exceedances were observed at depth of up to 3.00mbgl the made ground in this area (RBH203), the cut would serve to remove a significant portion of the leachate source material. It should also be noted that this area is proposed to be surfaced entirely with hardstanding, which would limit surface water infiltration to the underlying soils, thus reducing the potential for soil leaching to groundwater.

6.4.8 A cut of up to 9.00mbgl is proposed within the Network Rail mound. Whilst this would serve to remove the source of leachate exceedances of metals (lead, nickel and arsenic) PAH and TPH at RBH402, which were detected in the made ground at a depth up to 1.50mbgl, exceedances at RBH403 have been detected up to a depth of up to 9.90mbgl. Based on the current earthworks model, a proportion of soils with the potential to exhibit leachate exceedances will remain in situ. Current development plans indicate that the area in the vicinity of BH403 will be surfaced with hardstanding, restricting infiltration and soil leachability.

6.4.9 Soils exhibiting leachate exceedances of lead were detected in two discrete areas at TP214 and TP216 at plot NT04, at depths up to 0.80mbgl. TP214 is within a proposed soft landscaping area, and additionally within a proposed fill area according to the earthworks model. With that being said, the concentration of lead leachate at this location reported a relatively marginal exceedance of 12µg/l when compared to the GAC of 10µg/l. Though the lead exceedance within TP216 recorded a more significant exceedance of 141µg/l. The area of TP216 location is proposed to be surfaced with hardstanding which would limit surface water infiltration to the underlying soils, thus reducing the potential for soil leaching to groundwater.

6.4.10 The risks to groundwater have been assessed further by direct sampling and testing of groundwater. The results are presented and discussed in the sections below.

Groundwater

6.4.11 Prior to sampling, all wells were subject to purging of at least three well volumes to ensure representative levels of contaminants.

6.4.12 As the primary controlled waters receptor is the Principal aquifer (Chester Formation), the analytical results for groundwater samples have been assessed against DWS protective of groundwater quality. 45no. groundwater samples (plus three duplicate samples) have been tested from across the site (17no. groundwater samples (plus three duplicate samples from September/October 2022, 3no. groundwater

samples from January 2023, 13no. groundwater samples from May 2023 and 12no. groundwater samples from November 2023).

6.4.13 The groundwater results found to exceed the GAC are summarised below.

Table 6.11: Summary of Groundwater Testing in Exceedance of GACs

Determinands	DWS (µg/l)	No. of tests	No. of sample Exceedances	Locations of exceedances and Max. Concentration (µg/l)
Plot NT02				
Arsenic	10	24	7	LK BH01, RBH201, **RBH301(28),** RBH502
Sulphate	250,000	25	6	RBH201, RBH301, **RHB502 P2 (2,370,000),** RBH503
Carbon Tetrachloride	3	24	16	LK BH01, LK BH03, **RBH 203 (265)**, RBH302, RBH501 P1
Chloroform	100	24	3	**RBH203 (195)**
Cis 1,2-Dichloroethene	50	24	6	**LK BH1 (398)**, RBH301, RBH503
Trans 1,2-Dichloroethene	50	24	3	**LKBH01 (234)**
Vinyl Chloride	0.5	24	6	LKBH01, RBH301, **RBH503 (44)**
Trichloroethene	10	24	11	LK BH03, **RBH203 (572),** RBH501
Benzene (Aromatic Hydrocarbons (C5-C7))	1	24	8	LKBH01**,** RBH301, **RBH502 P2 (385),** RBH503, RBH505
Aliphatic Hydrocarbons (C12-C16)	300	24	2	**RH502 P2 (1,080)**
Aromatic Hydrocarbons (C12-C16)	90	24	2	**RH502 P2 (340)**
Plot NT03				
Arsenic	10	13	2	**RBH505 P2 (120)**
Sulphate	250,000	13	6	**RBH306 (515,000)** RBH202, RBH504
Nickel	20	13	1	**RBH306 (24)**
Carbon Tetrachloride	3	13	3	**RBH303 (38),** RBH504
Cis 1,2-Dichloroethene	50	13	2	**RBH303 (82),** RBH504

Determinands	DWS (µg/l)	No. of tests	No. of sample Exceedances	Locations of exceedances and Max. Concentration (µg/l)
Trichloroethene	10	10	2	**RBH303 (277),** RBH504
Network Rail Mound				
Arsenic	10	1	1	**RBH403 (49)**
Cadmium	5	1	1	**RBH403 (7.1)**
Lead	10	1	1	**RBH403 (607)**
Nickel	20	1	1	**RBH403 (102)**
Selenium	10	1	1	**RBH403 (20)**
Benzo(a)pyrene	0.01	1	1	**RBH403 (0.23)**
Benzo(b)fluoranthene	0.1	1	1	**RBH403 (0.29)**
Benzo(ghi)perylene	0.1	1	1	**RBH403 (0.15)**
Benzo(k)fluoranthene	0.1	1	1	**RBH403 (0.13)**
Indeno(123-cd)pyrene	0.1	1	1	**RBH403 (0.15)**
Plot NT04				
Sulphate	250,000	11	4	RBH208, **RBH209 (414,000)**
Arsenic	10	11	1	**RBH208 (10)**
Manganese	50	2	2	RBH205**, RBH206 (58)**
Notes: Location of maximum concentration for each Plot is shown in bold with the maximum concentration reported in brackets For hexachlorobutadiene the laboratory detection limit for testing <1µg/l exceeds the DWS, however all test results were reported below the limit of detection Duplicate samples are excluded from sample counts but the highest measured concentration reported between the two samples are reported.				

6.4.14 Recorded Trichloroethene exceedances in groundwater are recorded in the table below; LK BH03 and RBH203 are located in the south of Plot NT02 and RBH303 is located in Plot NT03 approximately 5m from the boundary with Plot NT02 and approximately 20m to the northeast of LK BH03 and RBH203.

Table 6.12: TCE Exceedances in Groundwater

Date	LKRBH03	RBH203	RBH303	GAC
27/09/2022	-	480	-	10
04/10/2022	250	572	-	
19/01/2023	80	418	-	
04/05/2023	43	214	277	
10/05/2023	39	200	221	

6.4.15 Recorded concentrations of TCE and other chlorinated VOC reported to exceed the DWS are shown on figure 4328-ROC-ZZ-XX-DR-ES-ES209A and TPH and benzene concentrations in groundwater are presented in figure 4328-ROC-ZZ-XX-DR-ES-ES209B.

Plot NT02

6.4.16 Screening of groundwater results from wells installed within the Chester Formation in Plot NT02 has consistently recorded elevated concentrations of Trichloroethene (TCE) significantly above the DWS. These have been limited to the southern area of Plot NT02 in the vicinity of the southern warehouse at LKRBH03, RBH203, RBH303 and RBH501, with the highest concentration at RBH203.

6.4.17 As well as spatially assessing the elevated concentrations of TCE in groundwater, temporal variations in TCE concentrations have also been assessed. The highest concentration of TCE (572 µg/l), reported in RBH203, was detected in a groundwater sample taken during the second sampling event in October 2022. It can be said that the concentration of TCE generally decreases during the subsequent four sampling events with a value of 215 µg/l reported in the most recent sampling event (November 2023). This is also the case with the other two boreholes where elevated concentrations of TCE have been detected; RBH303 and LKBH03, although there are less sampling events to consider. Concentrations in RBH303 reduce from 277 µg/l reported in sampling event dated 4th May 2023 to 221 µg/l in sampling event dated 10th May 2023 (two sampling events). Concentration in LKBH03 reduce from 250 µg/l reported in sampling event dated 4th October 2022 to 39 µg/l reported in sampling event dated 10th May 2023 (four sampling events).

6.4.18 The reason for the general decrease in TCE groundwater concentrations is considered inconclusive at this stage but a number of factors that could be causing the variations observed. There does not appear to be a correlation between variations in groundwater elevations and the concentration of TCE. Groundwater elevations do not appear to change significantly between sampling events; there are slight seasonal variations as would be expected, particularly in RBH203 where groundwater elevations increase marginally in the Autumn. However, there is no conclusive data that suggests this slight increase in groundwater elevation relates to the decrease in TCE concentration. Another consideration is the effect of variations in sampling depth within the water column. Samples obtained in September and October 2022, particularly from LKBH03 and RBH203, were sampled from deeper within the water column at depths of between 10.00 and 13.00m bgl. These sampling events recorded the highest concentrations of TCE.

6.4.19 During the following sampling events in January and May 2023, groundwater samples were obtained from shallower depths within the water column at 7.40m and 7.60m bgl, and concentrations of TCE had significantly decreased. Higher concentrations recorded when sampling from deeper in the water column could be observed since TCE may migrate towards the bottom of the water column due to its higher density than water when in free phase form (DNAPL), although it is noted that no DNAPL was detected during any of the monitoring rounds by the interface probe and the maximum measured TCE concentration recorded at the site of 0.572mg/l is two orders of magnitude less than 1% of the solubility limit for TCE (water solubility limit 1000mg/l, from Russell et al. 1992, 1% equals 10mg/l). Due to the uncertainty around the impact of varying sample depth, there is a possibility of higher dissolved phase concentrations being present beneath the site have not been taken into account.

6.4.10 The implications of this are discussed further in the DQRA report and in Section 7.1 Uncertainties. Another possible factor in the trend observed could be related to the performance of well development prior to sampling and whether the wells had been sufficiently developed to clear any settled silt that may have built up over time. Inadequate well development may have allowed impacted silts within the water column to build up, resulting in an unrepresentative TCE concentration within the wider aquifer.

6.4.11 Groundwater testing has also identified several other contaminants of note exceeding the DWS in Plot NT02 namely Arsenic and sulphate in the shallow and deep sandstone in the north of the site (routinely encountered in groundwater at brownfield sites) and several other VOC, namely carbon tetrachloride and chloroform predominantly in the shallow sandstone in the south of the site, and benzene and TCE daughter compounds cis-1,2-dichloroethene, trans 1,2-dichloroethene, vinyl chloride were reported to exceed the DWS in the CHES in the north of the site.

6.4.12 The presence of TCE daughter compounds in the shallow sandstone at LK BH01 and RBH301 in the north of Plot NT02 and at RBH503 in NT03 supports the updated groundwater contours for the CHES which indicate a flow direction towards the north-northeast in this area of the site as shown on groundwater contours on Drawing 4328-ROC-ZZ-XX-DR-ES-ES205 E-J in Appendix A. Groundwater samples also report some migration of chlorinated VOC into the deeper sandstone and top of the MM at RBH502 P2, RBH505 P2, RBH201 and RBH305, however concentrations detected are significantly lower than those reported in the CHES indicating migration of chlorinated VOC is primarily occurring in the higher permeable CHES formation.

6.4.13 Benzene exceedances are reported in groundwater in the CHES and the MM in the north of Plot NT02 and TPH fractions aliphatic and aromatic C12-C16 and benzene are reported to exceed the DWS in the southwest of the site. As discussed in Section 6.1 based on the profile of the TPH fractions there appears to be two distinct sources of TPH and benzene at the site and both are considered most likely to have migrated onto site from off-site sources to the west and south. Since the majority of the benzene contamination is in the deeper marl (secondary B aquifer) and not in the overlying principal sandstone aquifer and since it is most likely due to an off-site source, benzene is not considered to be a primary risk driver for site remediation.

6.4.14 It is noted that the metals, PAH compounds and TPH fractions detected in leachate testing and the other SVOC detected in soils testing were not reported at concentrations exceeding the GAC in groundwater, likely due to degradation in the unsaturated zone given and/or more preferential sorption to soils.

Plot NT03

6.4.15 TCE, carbon tetrachloride and cis-1,2-dichloroethene were reported to exceed the DWS in shallow sandstone at RBH303 and RBH503 located close to the western site boundary with Plot NT02. TCE was also detected in unsaturated soils at RBH504 with a maximum concentration of 49 µg/kg at 1.5m bgl, confirming the soil TCE source extends into the southwest of Plot NT03 within the footprint of the historic boltworks. TCE daughter compounds DCE and VC were also detected exceeding the DWS further down hydraulic gradient to the north of Plot NT03 within the CHES at RBH503. Low concentrations of TCE were also detected in the deeper CHES at RBH305 and in the MM at RBH202 in the north of Plot NT03. The contaminant distribution confirms that the majority of the TCE groundwater plume is migrating within the weathered shallow CHES rather than migrating vertically into the deep sandstone and underlying MM.

6.4.16 Due to their localised nature and concentrations reported at the same order of magnitude as the DWS the reported exceedances for sulphate, manganese and nickel are not considered to pose a significant risk to the wider groundwater quality.

Network Rail Mound

6.4.17 A number of metal and PAH compounds were reported to exceed DWS within the River Terrace Deposits beneath the Network Rail Mound at RBH403. The most significant exceedance was lead which is 60 times in exceedance of the DWS. However, due to the localised nature of these exceedances within the River Terrace deposits and concentrations generally being of the same order of magnitude as the DWS, these exceedances are not considered to pose a significant risk to the wider groundwater quality.

Plot NT04

6.4.18 Localised exceedances of the DWS for sulphate, manganese and nickel are reported at concentrations of the same order of magnitude as the DWS and are not considered to pose a significant risk to the wider groundwater quality within the underlying Manchester Marl. Thus, risks to controlled waters at Plot NT04 are considered to be low.

Surface Water

6.4.19 As a further line of evidence, due to the presence of River Irk in close proximity to the site, samples of the surface water have been collected to provide a direct assessment of the water quality.

6.4.20 Two surface water samples, namely SS301 and SS304, were collected downstream and upstream of the site respectively, in May and June 2023.

6.4.21 Some of the analytical results for surface water samples are above the relevant GAC protective of surface water receptors indicating possible impact to the surface water body. The exceedances are shown in the table below.

Table 6.13: Summary of Surface Water Testing in Exceedance of GACs

Determinands	EQS (µg/l)	No. of Exceedances	Upstream sample (SS304)	Downstream sample (SS301)
Copper	1	1	**4**	<4
Nickel	4	1	<2	**4**
Zinc	10.9	2	**18**	**25**

6.4.22 For certain analytical compounds, as listed in the table below, the laboratory limit of detection exceeds the relevant GAC. In these instances, measured concentrations may exceed the EQS GAC, but equally the concentrations may fall below the GAC.

Table 6.14: Summary of Groundwater Testing Where LOD is greater than the GAC

Determinands	Limits of Detection (µg/l)	EQS (µg/l)	Upstream Sample (SS304)	Downstream Sample (SS301)
Mercury	<0.1	0.07	<0.1	<0.1
1,2,3-Trichlorobenzene	<3	0.4	<3	<3
1,2,4-Trichlorobenzene	<1	0.4	<1	<1
Hexachlorobutadiene	<1	0.6	<1	<1
Benzo(a)pyrene	<0.01	0.00017	<0.01	<0.01
Fluoranthene	<0.01	0.0063	<0.01	<0.01
Bis(2-ethylhexyl) phthalate	<10	1.3	<10	<10
Pentachlorophenol	<1	0.4	<1	<1
Phenol	<10	7.7		<10

6.4.23 It is evident from the table above that concentrations of nickel and zinc increase as they move from upstream to downstream passed the site. With respect to nickel, the concentration doubles from <2 ug/l to 4 ug/l towards the downstream sampling location where it exceeds the GAC. Zinc already exceeds the GAC on the upstream side of the site but further increases as it flows passed the site. Copper is reported to be relatively consistent at both the upstream and downstream locations.

6.4.24 It should be noted that there is an industrial site (Preservation Paints Ltd) located immediately adjacent to the River Irk, approximately 400m upstream. Several land parcels that have been historically used for industrial purposes in the recent past and a site in between Plots NT02-NT04 and the River Irk that could have historically or are currently contributing to the contamination status of the River Irk.

6.4.25 The reported exceedances of the EQS found in surface water, particularly nickel, were reported as a compound exceeding the DWS in groundwater. Copper and Zinc were not reported as exceeding the DWS in groundwater. Trichloroethene was of particular concern within soil leachate and groundwater samples, however, detectable concentrations above the laboratory limit of detection have not been reported in either the upstream or downstream surface water samples.

6.4.26 As exceedances include copper, nickel and zinc, further assessment has been undertaken using the UKTAG Metal Bioavailability Tool (M-BAT) approach. The tool has been used to calculate the site-specific predicted no effect concentrations (PNEC) for these compounds.

6.4.27 Laboratory results have then been compared with the PNEC. The regional background concentration of zinc of 2.9 ug/l has been subtracted from the exceedances.

6.4.28 The analytical results for surface waters are below the PNEC indicating that concentrations of copper, nickel and zinc recorded in groundwater have not currently resulted in the presence of unacceptable concentrations of determinants within the adjacent surface water.

Contaminants of Concern for Controlled Waters DQRA

6.4.29 The primary aim of the Generic Controlled Waters Risk Assessment (GQRA) is to provide an initial screen, through the comparison of soil leachate and groundwater laboratory results to generic assessment criteria (DWS and/or EQS), to identify the Contaminants of Concern (CoCs) that could potentially pose a risk to controlled waters.

6.4.30 Once this initial (Tier 1) screen has been completed, the assessment of risk posed by the CoC is further refined through a Detailed Quantitative Risk Assessment (DQRA). Prior to the DQRA, and in accordance with the Part 2A regime, CoC exceeding the generic screening criteria are subject to a further process of refinement to avoid unnecessary detailed assessment of CoCs; as such, CoCs meeting the following criteria, are not taken forward to modelling:

- Marginally exceeding their GACs
- Reflective of natural background concentrations; and,
- Isolated and infrequent.

6.4.31 In this is instance, the primary receptors for on-site groundwater or leachate contamination are as follows:-

1) Chester Triassic Sandstone bedrock formation (classed as a Principal Aquifer)
2) Manchester Marls calcareous Mudstone & Siltstone formation (Secondary B aquifer)
3) Surface water course the River Irk (located 20m from site at its closest point)

6.4.32 Following the GQRA assessment of controlled waters as outlined in the current section, the priority contaminants of concern that are being considered to be taken forward to the DQRA are as follows:

Plot NT02

- TCE, carbon tetrachloride, cis and trans-1,2-dichloroethene and vinyl chloride.
- Due to the localised nature of the chloroform DWS exceedances at RBH203 in the south of the site and the absence of exceedances at the down gradient site boundary in the north of the site with concentrations two orders of magnitude below the DWS, chloroform was not taken forward to DQRA.
- Since no clear source has been identified for the benzene detected close to the northern site boundary at Plot NT02 and the TPH and benzene source in the MM detected at RBH502 P2 in the southwest of the site and the likelihood that these contaminants are due to an off-site sources, benzene has not be proposed to take forward for DQRA, Chlorinated solvents are considered the primary risk driver for the site.

Plot NT03

- The primary contaminants of concern for controlled waters at Plot NT03 are TCE, carbon tetrachloride and cis-1,2-dichloroethene detected in groundwater close to the western boundary with Plot NT02. These contaminants will be considered within the proposed DQRA for Plot NT02.

Plot NT04

- None required

6.4.33 The above Coc's are based on the results from our initial screening assessment. These results indicate that the groundwater table and leachate potential beneath Plot NT02 is the most significantly impacted as a result of former site operations. This is to be expected given the previously discussed soil sources of contamination noted in this area as a result of former industrial activity and we are minded to recommend these substances are taken forward to the DQRA modelling stage to further assess risks posed and inform likely scope of remedial measures to redress.

6.4.34 Across Plots NT03 and 04 evidence of groundwater impacts from the adjacent Plot NT02 are not as pronounced, with Coc's associated with sulphate, manganese and lead noted. With respect to lead, this is a very environmentally persistent substance, and it is unlikely DQRA assessment would show a significant variation in levels as it flows through the water table into the aquifers or nearby water course. As such we are minded to exclude these substances from modelling works and instead specify remedial clean up target concentrations based on established Human Health screening values for the intended end use scenario.

6.5 Below Ground Concrete Construction

Plot NT02

6.5.1 Peak potential sulphate concentrations range between 10 and 1470mg/l with soil pH values ranging between 7.16 and 10.56 providing a characteristic pH of 7.62 and a characteristic sulphate of 940mg/l. Based on these results, it is considered that well compacted buried concrete should be designed in accordance with Class DS-2 AC-1s. requirements as specified in BRE Digest Special Digest 1:2005 *Concrete in aggressive ground: Version 3*.

Plot NT03

6.5.2 Peak potential sulphate concentrations range between 22 and 1740mg/l with soil pH values ranging between 7.64 and 9.4 providing a characteristic pH of 7.8 and a characteristic sulphate of 1490mg/l. Based on these results, it is considered that well compacted buried concrete should be designed in accordance with Class DS-2 AC-1s requirements as specified in BRE Digest Special Digest 1:2005 *Concrete in aggressive ground: Version 3*. It should be noted that in a groundwater sample obtained from WS311 within made ground deposits a water soluble sulphate concentration of 2,650mg/l was reported. This would equate to DS-3 and it is recommended any concrete in contact with the water body in this area of the site match this specification.

Network Rail Mound

6.5.3 Peak potential sulphate concentrations range between 28 and 1450mg/l with soil pH values ranging between 7.86 and 8.67 providing a characteristic pH of 7.875 and a characteristic sulphate of 1435mg/l. Based on these results, it is considered that well compacted buried concrete should be designed in accordance with Class DS-2 AC-1s requirements as specified in BRE Digest Special Digest 1:2005 *Concrete in aggressive ground: Version 3*.

Plot NT04

6.5.4 Peak potential sulphate concentrations range between 10 and 504mg/l with soil pH values ranging between 6.78 and 9.30 providing a characteristic pH of 7.38 and characteristic sulphate of 405mg/l. Based on these results, it is considered that well compacted buried concrete should be designed in accordance with Class DS-1 AC1s requirements as specified in BRE Digest Special Digest 1:2005 *Concrete in aggressive ground: Version 3*.

6.7 Detailed Quantitative Risk Assessment

6.7.1 Following completion of the Generic Risk Assessment, and as noted in Section 6.4, a number of contaminants of concern were identified to be taken forward to Detailed Quantitative Assessment stage to further assess risks to controlled waters. The purpose of this assessment will be to further consider the potential impacts that may arise from the TCE contamination plume noted to the southwest on the Principal Bedrock aquifer and off-site receptors.

6.7.2 The modelling assessment has been provided as a stand-alone report (ref: 11847 R01 (01)) included within Appendix I and should be reviewed in tandem with current assessment. The DQRA modelling assessment has identified the following headline conclusions.

1) The results from the soil leaching and dissolved phase assessments indicate that predicted concentrations of TCE, DCE, VC and carbon tetrachloride at a theoretical compliance point 50 m down gradient of the site exceed the target concentrations.
2) Therefore, a pollutant linkage is considered to exist between the VOC soil source and dissolved phase plume extending beneath Plot NT02 and the west of Plot NT03 and controlled waters via vertical migration through the unsaturated zone and/or lateral migration through dissolved phase to the wider principal aquifer.
3) In accordance with this remediation shall be required at the site. Subject to agreement of the targets derived with the EA, the RTVs presented in this report should be used to inform remedial works at the site.
4) Uncertainty remains on the full extents of the TCE soil source area, which may extend further east into Plot NT03, however sensitivity analysis showed no measurable change in predicted concentrations at the 50m compliance point for a +/- 20% change in source width.
5) Although some uncertainty remains, given the inherent conservatisms associated with the modelling and the results of the sensitivity analysis and model calibration, the conclusions drawn from this assessment are considered robust.

6.7.3 The output from the modelling assessment has allowed Remedial Target Values to be derived for the contaminants of concern. These values, as reproduced from Table 16 of the DQRA report, indicate the values to which site soils and groundwater will require treatment for the protection of controlled waters.

"Table 16", Soil & Groundwater RTV's from DQRA modelling works

COPC	Soil RTV (mg/kg)	Locations of soil RTV exceedances and max concentration (mg/kg)	Groundwater RTV (mg/l)	Locations of groundwater RTV exceedances and max concentration (mg/l)
Trichloroethene (TCE)	0.224	WS302 1.5m bgl (0.602) WS304 0.5m bgl (0.23) WS305 1.0m bgl (0.427) WS308 0.6 & 1.0m bgl (max 1.13)	0.0271	LKBH03 (max 0.250), RBH203 (max 0.572), RBH303 (max 0.277)
Carbon tetrachloride	0.116	NR	0.149	RBH203 (max 0.265), RBH302 (max 0.207)

COPC	Soil RTV (mg/kg)	Locations of soil RTV exceedances and max concentration (mg/kg)	Groundwater RTV (mg/l)	Locations of groundwater RTV exceedances and max concentration (mg/l)
Cis and trans-1,2-dichloroethene	NA	NA	0.0902	LKBH01 (max 0.602) RBH301 (0.102) RBH503 (0.100) RBH504 (0.151)
Vinyl chloride	NA	NA	0.00425	LKBH01 (max 0.016) RBH503 (0.044)
NR – no RTV exceedances recorded NA – DCE and VC not included in the leaching pathway model				

7.0 Refined Conceptual Site Model

7.0.1 In this Section, the significant source-pathway-receptor contaminant linkages have been refined following the GQRA and DQRA in line with industry good practice, providing an updated CSM based on the findings of the ground investigation and analytical results, also drawing on the ground and groundwater conditions, and contamination assessment presented in the above Sections 4-6.

7.0.2 The Environmental Protection Act Part IIA: 1990, defines contamination as land containing levels of contamination which form a risk to human health, controlled waters, or other ecosystems. Therefore, contamination in exceedance of the relevant screening values is considered a source. Table 7.0 assesses and summarises the sources, pathways and receptors that may exist at the site, in the context of the proposed redevelopment as *mixed high and medium rise residential buildings with small areas of soft landscaping and new access roads* future land use scenario.

Table 7.0: Refined Conceptual Site Model

Table 7.0	Refined Conceptual Site Model					
Source	**Pathway**	**Receptor**	**Severity**	**Probability**	**Risk definition**	**Comments**
On Site Made Ground arising from previous site operations and subsequent redevelopment and clearance. (Metals, PAHs and Asbestos)	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust and asbestos fibres	Current Site Users: temporary event space	Medium	Unlikely	Low	Exceedances of human health criteria have been observed in shallow Made Ground across all three plots, predominantly comprising lead, with PAH exceedances at a single location (TP202) at Plot NT02. In addition, a single exceedance of soil TCE concentration was observed in WS208 within the Made Ground beneath the warehouse at Plot NT02. Asbestos has been identified in made ground soils in all plots across the site at quantification levels between <0.001% and 0.013%, with a single occurrence of visible chrysotile cement reported in Plot NT03. The majority of NT02 is covered with buildings and hard standing and is anticipated to remain as such, which will significantly inhibit the potential pathway to human health risk.
		Construction workers	Medium	Likely	Moderate	Elevated concentrations of heavy metals and PAH have been detected within the Made Ground across the site. Asbestos was also identified in made ground soils in all plots across the site at quantification levels between <0.001% and 0.013%, with a single occurrence of visible chrysotile cement reported in Plot NT03. Therefore a potential risks to construction workers from direct contact with contaminated made ground exists. Construction workers will likely be the most exposed to the identified contaminants on site when breaking ground. Risks to construction workers will require careful control measures through the construction phase, through the use of full PPE and the adoption of good hygiene and site practices.

Table 7.0	Refined Conceptual Site Model					
Source	**Pathway**	**Receptor**	**Severity**	**Probability**	**Risk definition**	**Comments**
On site Made Ground arising from previous site operations and subsequent redevelopment and clearance. (Metals, PAHs and Asbestos)	Oral, dermal and inhalation exposure with impacted soil, soil vapour and dust and asbestos fibres	Future Site Users: Residents, commercial site users and users of areas of public open space	Medium	Likely	Moderate	Exceedances of human health criteria have been observed in shallow Made Ground across all three plots, predominantly comprising lead, with PAH exceedances at a single location (TP202) at Plot NT02. In addition, a single exceedance of soil TCE concentration was observed in WS208 within the Made Ground beneath the warehouse at Plot NT02. Asbestos has been identified in made ground soils in all plots across the site at quantification levels between <0.001% and 0.013%, with a single occurrence of visible chrysotile cement reported in Plot NT03. The majority of the site is proposed to be covered in buildings and hard standing, which will significantly inhibit the potential pathway to future end-users. Areas of public open space are proposed and there is a potential risk of site users coming into contact with contaminated soils. Remedial measures in the form of contaminated soil removal and installation of cover systems is to be carried out and is documented within the site's Remediation Strategy.
		Adjacent site users: Residents and commercial site users to the south and west.	Medium	Low likelihood	Moderate/low	Elevated levels of heavy metals, PAH, chlorinated solvents and asbestos have been identified within soil samples across the site which present a risk to adjacent site users.. The majority of the site will be covered in hardstanding and buildings which will restrict the migration of dust and fibres to adjacent sites. A combination of contaminated soil removal and use of cover systems in areas of public open space will inhibit the pathway further. During the construction phase, measures will be required to restrict the migration of dust and fibres so

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
	On Site Made Ground arising from previous site operations and subsequent redevelopment and clearance. (Metals, PAHs and Asbestos)						that adequate protection is offered to adjacent site users. These measures will be outlined in the site's Remediation Strategy.
		Chemical attack and permeation	Below ground infrastructure & construction	Medium	Likely	Moderate	Elevated levels of heavy metals, PAH and TPH have been identified within soil samples across the site which present a risk to water supply pipes on site. A UU pipe risk assessment should be undertaken in light of the final drainage and earthworks layout. This could feasibly be undertaken after completion of the site earthworks at such a time when proposed depth and pipe run alignments are confirmed. On Plot NT02 below ground concrete structures are to be designed in accordance with a Class DS-2 AC-1s requirements. On Plot NT03 below ground concrete structures are to be designed in accordance with a Class DS-2 AC-1s requirements. A single reported value of sulphate at WS311 of 2,650mg/l has been reported which increased the DS classification to DS-3. It is recommended that any concrete in this area of the site takes this reported concentration into account in the design. In the Network Rail mound below ground concrete structures are to be designed in accordance with a Class DS-2 AC-1s requirements. On plot NT04 below ground concrete structures are to be designed in accordance with a class DS-1 AC-1s as specified in BRE Digest Special Digest 1:2005 Concrete.

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
	On Site Made Ground arising from previous site operations and subsequent redevelopment and clearance. (Metals, PAHs and Asbestos)	Plant uptake	Ecological	Mild	Low likelihood	Low	Phytotoxic contaminants have been identified on site including lead. Via a combination of soil removal and installation of clean cover systems in areas of soft landscaping, future ecological receptors are considered to be suitably protected.
		Leaching from soils to dissolved phase and percolation to aquifer	Groundwater within Principal Aquifer (CHES) and Secondary B aquifer (MM)	Medium	Low Likelihood	Moderate to Low	Localised exceedances reported in groundwater, particularly lead, indicate some degree of leaching has occurred, however the majority of site is proposed to be covered in hard standing/buildings post development which will reduce the rate of infiltration considerably. Furthermore, large volumes of made ground in the areas where leachate exceedances have been reported are proposed to be cut, thus removing the source of contamination;
		Lateral migration to wider aquifer	Groundwater in wider Principal and Secondary B aquifers	Medium	Unlikely	Low	Localised exceedances are unlikely to be migrating off site. Most of the site is proposed to be covered in buildings / hard standing post development reducing the rate of infiltration that can occur, and locations where exceedances in leachate have been reported are in areas of made ground proposed to be cut. Surface water impact severity is low due to the existing quality in the River Irk being classified as poor given it has already been impacted by the wider industrial area that included historic gas works etc. It is unlikely that the made ground on site would significantly further impact surface water quality in the Irk
		Lateral migration to surface water	River Irk located 21m north	Mild	Low Likelihood	Low	
	On Site Diffuse TCE source in unsaturated soils in south of Plot NT02	Direct contact - dermal contact, ingestion and Inhalation of vapours	Current Site Users: Temporary event space	Medium	Low Likelihood	Moderate to Low	A body of evidence, including visual and olfactory evidence, soils testing, water sampling in this investigation, and water sampling supports the presence of chlorinated solvent contamination beneath the southern warehouse and surrounding areas.

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
	and southwest of Plot NT03 likely associated with historic bolt works. Plus underlying dissolved phase chlorinated VOC plume (incl TCE and daughter products DCE and VC)	Direct contact - dermal contact, ingestion					Direct testing of soil vapour has been undertaken to assess the likely risks posed to human health from soil vapour. Concentrations measured are below commercial GACs. In addition to depth, the presence of buildings and hardstanding across the affected area significantly inhibits the potential pathways to human health risk receptors. Consequently, we do not consider this risk to require remedial action for this temporary end use scenario.
			Construction workers	Medium	High Likelihood	High	It is likely construction works will come into contact with TCE contaminated soils, particularly within the southern portion of the existing warehouse on Plot NT02. Remediation of these soils will be required for the protection of controlled waters receptors which will go some way to mitigating these risks, however as with other more conventional sources of contaminated noted on site (Heavy Metals, PAH, Asbestos etc) a residual risk will remain and appropriate PPE, control measures and welfare facilities will be required during the development process to mitigate risks.

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
	On Site Diffuse TCE source in unsaturated soils in south of Plot NT02 and southwest of Plot NT03 likely associated with historic bolt works. Plus underlying dissolved phase chlorinated VOC plume (incl TCE and daughter products DCE and VC)	and Inhalation of vapours	Future Site Users: Residents, commercial site users and users of areas of public open space	Medium	Likely	Moderate	The chlorinated solvents present in unsaturated soils have the potential to pose a risk to future residents across the Plot NT02 and the southwest of Plot NT03, via direct contact with site soils or via vapour generation and ingress into buildings or enclosed spaces. It is noted some form of primary source remediation and treatment of this soil contamination will be required to reduce the risks posed to controlled waters which will reduce the severity of risks posed. The use of clean soil capping systems within all soft landscaping plots and the proposed presence of widespread building / hard standing cover across the NT02 and NT03 site will also impede direct contact (dermal and ingestion) exposure pathways (and reduce risks posed) Direct testing of soil vapour has been undertaken to assess the likely risks posed to human health from soil vapour. Concentrations measured are in excess of residential GAC, although these have not been developed for a high-rise style residential land use. Further consideration of VOC vapour risks will need to be considered in the post remediation phase as a result.
		Leaching to underlying groundwater and lateral migration of dissolved phase contaminants off-site followed by migration of	Adjacent site users: Residents and commercial site users to the south and west.	Medium	Unlikely	Low	There is evidence of leaching of chlorinated VOC to groundwater beneath Plot NT02 and the west of Plot NT03, with contamination primarily present in the CHES. Groundwater in the CHES has been shown to be flowing in a north-northeasterly direction, therefore it is unlikely that VOC will be migrating off-site to the west and south.

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
	On Site Diffuse TCE source in unsaturated soils in south of Plot NT02 and southwest of Plot NT03 likely associated with historic bolt works. Plus underlying dissolved phase chlorinated VOC plume (incl TCE and daughter products DCE and VC)	vapours into off-site buildings and inhalation by adjacent site users					
		Chemical attack and permeation	Below ground infrastructure & construction	Medium	Likely	Moderate	It is possible that drinking water supply pipes will be routed through areas where chlorinated VOC contamination has been detected in soils. It is noted some form of primary source remediation and treatment of this plume soil contamination will be required to reduce the risks posed to controlled waters which will reduce contaminant concentrations. A UU pipe risk assessment should be undertaken in light of the final drainage and earthworks layout. This could feasibly be undertaken after completion of the site earthworks at such a time when proposed depth and pipe run alignments are confirmed. On Plot NT02 below ground concrete structures are to be designed in accordance with a Class DS-2 AC-1s requirements. On Plot NT03 below ground concrete structures are to be designed in accordance with a Class DS-2 AC-1s requirements. A single reported value of sulphate at WS311 of 2,650mg/l has been reported which increased the DS classification to DS-3. It is recommended that any concrete in this area of the site takes this reported concentration into account in the design. In the Network Rail mound below ground concrete structures are to be designed in accordance with a Class DS-2 AC-1s requirements.

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
	On Site Diffuse TCE source in unsaturated soils in south of Plot NT02 and southwest of Plot NT03 likely associated with historic bolt works. Plus underlying dissolved phase chlorinated VOC plume (incl TCE and daughter products DCE and VC)						On plot NT04 below ground concrete structures are to be designed in accordance with a class DS-1 AC-1s as specified in BRE Digest Special Digest 1:2005 Concrete.
		Leaching from soils to dissolved phase and percolation to aquifer	Groundwater underlying the site within Principal Aquifer (CHES) and Secondary B aquifer (MM)	Medium	High Likelihood	High	There is evidence of leaching of chlorinated VOC to groundwater beneath Plot NT02 and the west of Plot NT03, with reported concentrations exceeding the controlled waters GAC in the CHES.
		Lateral migration of dissolved phase VOC to wider aquifer	Groundwater in wider Principal aquifer	Medium	Likely	Moderate	Whilst TCE concentrations at monitoring wells close to the down gradient northern site boundary are greatly reduced compared to concentrations in the plume core, TCE daughter products DCE and VC are present at concentrations exceeding the DWS in the north of the site. DQRA modelling identified potential exceedances of the DWS at the 50 m compliance point indicating potential impact to the wider principal aquifer and therefore remediation of both the soil source and groundwater plume is proposed to meet the remedial target values identified in the DQRA. It is considered the likely remediation works necessary to address ground contamination issues identified within site soils and groundwater will achieve betterment in terms of water quality or potential off-site impacts that may be occurring.
		Lateral migration to surface water	River Irk located 21m north	Mild	Likely	Moderate to low	DQRA modelling indicates that chlorinated VOC could potentially be migrating >50m from the site to the north-northeast however the River Irk in the vicinity of the site is reported to be of low water quality (Grade E).

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
							Previously a gas works was located adjacent to the northern site boundary between the site and the River Irk. There are also numerous other potentially polluting current and historic industrial sites within the vicinity of this stretch of the River Irk including a dye works and additional gas works. Due to the already poor surface water quality reported in the River Irk due to the long industrial past of the wider surrounding area, the river is considered to be of low sensitivity from the site. It is also of noted that the River Irk is located approximately 100m from the TCE impacts identified in unsaturated soils in the south of Plot NT02 extending into the southwest of Plot NT03. Proposed remediation of chlorinated VOC in soils and groundwater in the CHES for the protection of the wider principal aquifer will also act to lower the risks to surface water.
	On-site Dissolved phase Benzene/TPH predominantly in shallow MM in southwest of Plot NT02 (RBH502 P2)	Direct contact – inhalation of vapours	Current Site Users: Temporary event space	Medium	Unlikely	Low	Benzene has been detected at depth in groundwater in the MM at approx. 15 to 20m bgl possibly emanating from an off site source. it is unlikely that vapours would migrate vertically over this distance into buildings on site. Furthermore no significant concentrations of benzene were detected in unsaturated soils and soil vapour testing did not identify any exceedances in residential vGAC
			Future Site Users: Residents, commercial site users and users of areas of public open space	Medium	Unlikely	Low	
			Construction workers	Medium	Unlikely	Low	Due to the depth of the contaminated groundwater it is considered unlikely that this will pose a risk to construction workers. If proposed construction works are likely to come into contact with groundwater in these areas of the site, suitable mitigation measures

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
							(appropriate PPE, control measures and welfare facilities) will be required.
			Adjacent site users: Residents and commercial site users to the south and west.	Medium	Unlikely	Low	Whilst groundwater in the MM is indicated to flow in a westerly direction towards the adjacent residential site, given the depth of the contaminated groundwater it is considered unlikely to pose a risk to adjacent site users.
		Lateral migration to wider aquifer	Groundwater in wider Principal and Secondary B aquifers	Mild	Likely	Moderate to low	The benzene detected in the MM at RBH502 P2 is located close to the down gradient site boundary (west) and could potentially be migrating off-site, however the MM is classed as a Secondary B aquifer and is therefor of lower sensitivity than the overlying CHES (principal aquifer). As discussed in Section 6.1 it is possible that the benzene in the MM originates from an off-site source (most likely the historic gas works to the south of the site), considering this combined with the lower sensitivity of the MM, this benzene source was not considered a primary risk driver for the site and was not taken forward to DQRA.
		Lateral migration to surface water	River Irk located 21m north and ~100m west	Mild	Low likelihood	Low	Groundwater in the MM is indicated to flow in a westerly direction, given the distance to the river Irk in this direction of at least 100m there is a low likelihood that the benzene detected in the MM will be impacting surface water quality.
	Onsite: Made Ground soils associated with the Network Rail Mound	Direct contact - dermal contact, ingestion and Inhalation of vapours	Current Site Users: Temporary event space	Medium	Unlikely	Low	Soil testing of the Network Rail Mound has indicated exceedances of metals, particularly lead, PAH and TPH. In addition, a total of 13no. soil samples were analysed for the presence of asbestos and no asbestos was detected in any of the samples. It is understood that there are no current site users in this area of the site as Ryan Topsoil operations have ceased. There is also not expected to be any site uses

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
	(Metals, TPH and PAHs)						in the interim period between the present and the beginning of construction / enabling works.
			Construction Workers	Medium	Likely	Moderate	Soil testing of the Network Rail Mound has indicated elevated metals, particularly lead, PAH and TPH concentrations. Construction workers will likely be the most exposed to the identified contaminants on site when breaking ground. Risks to construction workers will require careful control measures through the construction phase, through the use of full PPE and the adoption of good hygiene and site practices.
			Future Site User: Residents, commercial site users and users of areas of public open space	Medium	Unlikely	Low	The Network Rail mound is to be reprofiled to increase developable area for the development and a retaining wall constructed to support soils adjacent to the viaduct adjoining the sites southern boundary. New high-rise buildings are proposed in close proximity to the retaining wall but it is envisioned that the retaining wall itself. and a soil capping layer atop, will serve to eliminate any pathways from contaminants that remain present within the mound and future site users. Access to the top of the mound and retaining wall will also be limited and not open to the public / future residents, further limiting exposure potential.
			Adjacent site users: Residents and commercial site users to the south and west.	Medium	Unlikely	Low	The Network Rail mound is to be reprofiled to increase developable area for the development and a retaining wall constructed to support soils adjacent to the viaduct adjoining the sites southern boundary. Soil contamination in the form of lead, PAH and TPH, has been identified within mound soils and although asbestos was not detected in the investigation, it's presence should not be completely ruled out. As such, during the construction phase, measures will be required to restrict the migration of dust and fibres so

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
							that adequate protection is offered to adjacent site users. These measures will be outlined in the site's Remediation Strategy.
		Plant uptake	Ecological	Mild	Low likelihood	Low	Phytotoxic contaminants have been identified on site including lead. Via a combination of soil removal and installation of clean cover systems in areas of soft landscaping, future ecological receptors are considered to be suitably protected.
		Chemical attack and permeation	Below ground infrastructure & construction	Medium	Likely	Moderate	The Network Rail mound is to be reprofiled to increase developable area for the development and a retaining wall constructed to support soils adjacent to the viaduct adjoining the sites southern boundary. However, elevated levels of heavy metals, PAH and TPH have been identified within soil samples which may present a risk to water supply pipes located in this area. A UU pipe risk assessment should be undertaken in light of the final drainage and earthworks layout. This could feasibly be undertaken after completion of the site earthworks at such a time when proposed depth and pipe run alignments are confirmed. Using current data, the Network Rail mound below ground concrete structures are to be designed in accordance with a Class DS-2 AC-1s requirements.
		Leaching from soils to dissolved phase and percolation to aquifer	Groundwater within Principal Aquifer (CHES) and Secondary B aquifer (MM)	Medium	Low Likelihood	Moderate to Low	Elevated leachate concentrations were reported in RBH402 at 1.50m bgl and RBH403, albeit much deeper at 9.90m bgl. Additionally, elevated levels of contaminants were reported in groundwater testing from RBH403 which is sealed into the River Terrace Deposits beneath the made ground soils of the Network Rail mound. A well was also installed in the neighbouring RBH401 with the same response zone, however RBH401 contained no groundwater. Due to this it is believed that the groundwater encountered in RBH403

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
							is sitting above a layer of clay and is a limited pocket of perched groundwater localised to the area of this borehole and extending no further westwards than RBH401. A cut of up to 9.00mbgl is proposed within the Network Rail mound. This would serve to remove the source of leachate exceedances reported at RBH402 but a proportion of soils with the potential to exhibit leachate exceedances will remain in-situ. However, current development proposals indicate that the area in the vicinity of RBH403 will be surfaced in hardstanding, restricting infiltration and soil leachability. In addition to the above, current proposals are for the retaining wall to be piled and given the above, a piling risk assessment will be required in advance of construction of the Network Rail retaining wall to assess the risk of any potential pathways that may be created by piling works.
		Lateral migration to wider aquifer	Groundwater in wider Principal and Secondary B aquifers	Medium	Unlikely	Low	Localised exceedances are unlikely to be migrating off site. Most of the site is proposed to be covered in buildings / hard standing post development reducing the rate of infiltration that can occur, and locations where exceedances in leachate have been reported are in areas of made ground proposed to be cut. Surface water impact severity is low due to the existing quality in the River Irk being classified as poor given it has already been impacted by the wider industrial area that included historic gas works etc. It is unlikely that the made ground on site would significantly further impact surface water quality in the Irk
		Lateral migration to surface water	River Irk located 21m north	Mild	Low Likelihood	Low	

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
	Ground Gas Generation from on-site made ground	Migration / Accumulation	Current Site Users	Severe	Low likelihood	–Moderate	Site wide Made Ground deposits are considered to be a viable source of on-site ground gas generation. A total of 6 ground gas monitoring visits have been carried out at the site. The plots NT02 and NT03 have been designated CS2with a corresponding requirement for gas protection measures. On Plot NT04 no such CO2 concentrations were encountered and therefore Plot NT04 should be classified as CS1. If for any reasons risks relating to chlorinated solvents are not sufficiently remediated, vapour protection measures may be required in the affected area.
			Construction workers	Severe	Low likelihood	–Moderate	
			Adjacent site users: Residents and commercial site users to the south and west.	Severe	Low likelihood	–Moderate	
			Future Site Users	Severe	Low likelihood	–Moderate	
Off site	**Off-site:** Potentially Contaminative Sources; Historic industrial site uses to the immediate west (Rubber Works) and south (Gas Works)	Direct contact - dermal contact, ingestion and Inhalation of vapours	Current Site Users: Temporary event space	Medium	Unlikely	Low	Given that a source of benzene has not been detected in the unsaturated zone on site It is considered that the benzene detected in the north of the Plot NT02 site at LKBH01 is due to migration of contamination in the CHES from the former rubber works adjacent to the west. Similarly, the benzene detected in the deeper groundwater in the MM at RBH502 P2 is possibly due to migration of impacted water in the MM from the historic gas works locate to the south of the site. However, given the depth of this contamination it is considered unlikely that it would migrate at significant concentrations into buildings on site. Direct testing of

Table 7.0		Refined Conceptual Site Model					
Source		Pathway	Receptor	Severity	Probability	Risk definition	Comments
							soil vapour has been undertaken to assess the likely risks posed to human health from soil vapour. Concentrations measured are below commercial GACs.
			Construction Workers	Medium	Unlikely	Low	Due to the depth of the contaminated groundwater it is considered unlikely that this will pose a risk to construction workers. If proposed construction works are likely to come into contact with groundwater in these areas of the site, suitable mitigation measures (appropriate PPE, control measures and welfare facilities) will be required.
			Future Site User: Residents, commercial site users and users of areas of public open space	Medium	Unlikely	Low	Given the depth of this contamination it is considered unlikely that it would migrate at significant concentrations into buildings on site. It is noted that basement construction is not included within the proposed buildings on Plot NT02 and NT03. If this changes in future revisions to the development plans it may be necessary to re-assess this linkage.
		Chemical attack and permeation	Below ground infrastructure & construction	Medium	Unlikely	Low	Unlikely that utilities will come into contact with contaminated groundwater due to depth below site
		Ground gas Migration / Accumulation	Construction workers	Severe	Unlikely	–Moderate/low	It is unlikely further significant sources of ground gas exist off-site with the potential to impact the current site. However, gas protection measures have been recommended and appropriate personal ground gas detection equipment should be deployed by all site operatives when working in below ground or confined spaces.
			Current / Future Site Users	Severe	Unlikely	–Moderate/low	

7.0.1 The refined conceptual site model has identified the following potentially complete pollutant linkages requiring mitigation:

NT02 and western area of Plot NT03

- On site made ground soil contamination (Heavy metals, PAH, TPH and asbestos in made ground) and chlorinated VOC in soils from historic site usage - boltworks) – future residential site users - direct contact in areas of public open space – ingestion, dermal, dust/fibre inhalation and ingestion.
- On site made ground soil contamination (Heavy metals, PAH, TPH and asbestos in made ground and from historic site usage - boltworks) – adjacent site users and public open space users - direct contact in areas of public open space or from wind blown dust – ingestion, dermal, dust/fibre inhalation and ingestion.
- On-site contamination (made ground, and chlorinated VOC in soils from historic site usage - boltworks) - current/future buildings and services - direct contact with contaminated soils or groundwater - chemical attack.
- On-site contamination (Heavy metals, PAH, TPH, in made ground) – Principal aquifer – leaching from soils/ percolation to aquifer/ lateral migration of dissolved phase etc.
- On-site contamination (Chlorinated VOC in unsaturated soils and from historic site usage - boltworks) – Future residential site users – inhalation exposure with impacted soil and groundwater.
- On-site contamination (Chlorinated VOC in unsaturated soils from historic site usage - boltworks) – Principal aquifer – leaching from soils/ percolation to aquifer/ lateral migration of dissolved phase etc.
- On-site made ground - ground gas (methane and carbon dioxide) - current/ future site users – commercial / residential users - migration and ingress of ground gases into buildings, build-up in confined spaces and explosion/ asphyxiation
- On-site made ground - ground gas (methane and carbon dioxide) - current/ future buildings and services - migration and ingress of ground gases into buildings, build-up in confined spaces and explosion

NT04 and eastern area of Plot NT03

- On site made ground soil contamination (Heavy metals, PAH, TPH and asbestos in made ground) – future residential site users - direct contact in areas of public open space – ingestion, dermal, dust/fibre inhalation and ingestion.
- On site made ground soil contamination (Heavy metals, PAH, TPH and asbestos in made ground) – adjacent site users and public open space users - direct contact in areas of public open space or from wind blown dust – ingestion, dermal, dust/fibre inhalation and ingestion.
- On-site contamination (made ground) - current/future buildings and services - direct contact with contaminated soils or groundwater - chemical attack.
- On-site contamination (Heavy metals, PAH, TPH, in made ground) – Principal aquifer – leaching from soils/ percolation to aquifer/ lateral migration of dissolved phase etc.
- On-site made ground - ground gas (methane and carbon dioxide) - current/ future site users – commercial / residential users - migration and ingress of ground gases into buildings, build-up in confined spaces and explosion/ asphyxiation

- On-site made ground - ground gas (methane and carbon dioxide) - current/ future buildings and services - migration and ingress of ground gases into buildings, build-up in confined spaces and explosion

Summary of ground contamination risks

7.0.2 Re-appraisal and reassessment of the conceptual site model (following completion of investigation works) has serious sources of contamination likely requiring remediation. Due the nature and extent of some of the onsite contamination (particularly, chlorinated solvent contamination), a Detailed Quantitative Risk Assessment has been completed and is provided as an inclusion to this report

7.0.3 The results of the Detailed Quantitative Risk Assessment has been used to support the development of a Phase 3a Remediation Strategy for the site. Under the current proposals the majority of the site will be covered in buildings and areas of hardstanding. While hardstanding will inhibit exposure pathways between site users and contaminated soils, areas of soft landscaping have the potential to expose future site users to contaminants. In addition, construction workers will be exposed to these contaminants during excavation works and may also release mobile contaminants that may be stored in any below ground relic structures.

7.0.4 A detailed remediation design should be undertaken as part of a Remediation Strategy for the site but are likely to include the provision of a clean soil capping system in areas of proposed soft landscaping, with a minimum thickness of 600mm, of which 150mm should be topsoil. This system should also be subject to a validation system of its own including chemical testing and validation excavations. Vapour control measures may also be required as recommended by the Remediation Strategy.

7.0.5 Furthermore, an area of chlorinated solvent contamination has been identified in plot NT02. This is considered to comprise a potentially significant area of contamination with the potential to affect controlled waters and human health risk receptors. Remediation of this source will be required, likely to comprise at minimum, the excavation and treatment of site soils, and possibly also including groundwater treatment. The remedial requirements will be determined following the completion of the DQRA and development of Remedial Targets in the Remediation Strategy.

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7.0.6 Given the potential presence of the aforementioned contamination within the area of Plot NT02 and potential risks posed towards construction / demolition contractors during the enabling works phase, it is recommended that the proposed remedial works are completed (ideally) in advance of any below ground excavations or slab removal. The demolition of buildings to ground level would still be possible but, given the potential vapour exposure risks with soils in this area, grubbing out works of foundations and drainage etc should be captured as part of the remediation works. Further the ground floor slab will act as a barrier to site operative and protect the ground for surface water leaching, until such time as the remediation is ready to progress.

Ground Gas Protection Measures

7.0.7 Ground gas protection measures are anticipated as a requirement in new buildings in accordance with a CIRIA C665 CS2 scenario on Plots NT02 and NT03. The installation of these gas protection measures should be completed at all new residential buildings by suitably qualified specialist contractors in accordance with the specifications and expectations outlined in BS 8485:2015.

7.0.8 The local planning authority will require evidence of the installation of these protective measures as part of the discharge of any pre-occupation planning conditions relating to ground quality that may be imposed on the development.

7.0.9 This validation should include photographical records during the installation of all gas membranes (including evidence of adequate jointing / service penetration sealing) within all new structures at all 4 sites. Specifications for materials used and evidence of competent contractors being appointed to complete the installation should also be provided as part of the validation report to the local planning authority.

General

7.0.10 It is recommended all construction contractors take reasonable precautions to control environmental impacts that may occur as a result of redevelopment works with respect of soil and groundwater quality. These measures should include (and not be limited to):

1) Any sources of contamination uncovered during site development works should be brought to the immediate attention of RoC Consulting for consideration and comment. As required, the findings and recommendations of the current assessment may require amendment to reflect changes in site condition.

2) The operation of plant, refuelling facilities and general basement excavation works should include appropriate provision to reduce the risk of leakage / spillage, particularly into the site's groundwater table or exposed natural soils.

3) Appropriate dust mitigation measures should be deployed during basement excavation works, particularly when handling and excavating made ground deposits.

4) All excavated materials stockpiled should be periodically dampened down to control dust release. Similarly, the disposal of any material from site should be completed using covered wagons.

7.1 Uncertainties

7.1.1 Remaining uncertainties and data gaps in the refined conceptual site model have been identified in the table below along with the key implications.

Item	Details	Implications
Source(s) of TPH/benzene predominantly in groundwater in the MM in the southwest of the site	The source(s) of the dissolved phase benzene in the southwest/west of NT02 at RBH502 P2 is uncertain. The presence of the highest benzene concentrations in the shallow MM rather than the overlying CHES and the absence of benzene in unsaturated soils tested at the site possibly points to an off-site source as discussed in more detail in Section 4.4.1. Only one round of groundwater testing has been undertaken for 500 series monitoring wells including RBH502 P2 where the highest benzene and TPH concentration were recorded in the MM.	Whilst it is possible that a so far undetected source of benzene is present on site up gradient of BH502 the presence of benzene predominantly at depth in the MM rather than the overlying CHES indicates a lower risk to controlled waters. Should evidence of a potential source of benzene/TPH be identified in the remediation and ground works at the site (in accordance with a watching brief for unexpected contamination) potential controlled waters linkages relating to this source should be further assessed.
Lateral extents of the TCE soil plume	The TCE soil source has been shown to cover the southern portion of Plot NT02 up to its eastern site boundary and across into Plot NT03 at RBH504. To date limited soils testing for TCE has been undertaken in the southwest of Plot NT03 and thus the eastern extent of the soil source is uncertain. In addition, limited testing for TCE has been undertaken in the northern warehouse adjoining the southern portion of Plot NT02 due to access restrictions during fieldworks.	For the purposes of the DQRA model the source area was assumed to cover the extent of the historic bolt works. The model is shown to have low sensitivity to the source dimensions, therefore whilst it is important to understand the full extent of the source area for remediation design, further delineation of the soil TCE source is unlikely to significantly affect modelled concentrations and/or modelled remedial target values.
The variation in TCE concentration between monitoring rounds at RBH203, LKBH03 and RBH303 is uncertain and it is possible that highest dissolved phase chlorinated VOC concentrations not yet detected	Due to the likely age of the TCE source >60 years, it is considered unlikely that the observed changes in concentration represent an overall downward trend in concentrations due to the relatively short duration of monitoring undertaken (~1 year). There is the potential for higher concentrations of chlorinated VOC to be present in the dissolved phase beneath the site due to the sampling depth targeting the top 1m to 2m of the monitoring well response zones. whereas TCE may migrate towards the bottom of the water column due to its higher density that water when in the free phase form (DNAPL).	An increase in maximum dissolved phase VOC concentrations is considered highly unlikely to alter the conclusions drawn from the DQRA results, since exceedances of the DWS are already reported at the 50m compliance point and the calculated RTVs are not reliant on input concentrations.

Item	Details	Implications
	However, no DNAPL was detected during any of the monitoring rounds by the interface probe and the maximum measured TCE concentration recorded at the site of 0.572mg/l is two orders of magnitude less than 1% of the solubility limit for TCE and as such, it is considered unlikely that a DNAPL source is present beneath the site.	
No UKWIR water pipe risk assessment undertaken	No UKWIR risk assessment has been undertaken to assess the risk posed to water supply pipes by contaminants within site soils. Given the nature of the site it is possible that barrier pipes will be required to mitigate the risk of contamination of water supply.	It is recommended that once water supply pipe routes are established that testing is undertaken in line with UKWIR guidance in order to establish if any protection measures are required for water supply pipes on site.

8.0 Preliminary Waste Assessment

8.0.1 Site soils may be considered to comprise waste depending on the circumstances. The Waste Framework Directive (WFD) defines materials as waste if 'they are discarded, intended to be discarded or required to be discarded, by the holder'. Naturally occurring soils are not typically considered waste if reused on the site of origin for the purposes of development. Excavation arisings from the development may therefore be classified as waste if surplus to requirements or unsuitable for reuse. A large volume of laws, permitting and regulations govern the management of waste on construction sites, including Environmental Permits, Materials Management Plans and Construction Environmental Management Plans. The below assessment only provides some useful information which may inform future planning.

8.0.2 For the purposes of waste assessment the site soils have been divided into five assessment areas as shown on drawing 4328-ROC-ZZ-XX-DR-ES-ES207 presented in Appendix A. The soils assessed comprise predominantly shallow Made Ground soils which are anticipated to undergo significant excavation and movement. Waste properties for natural soils are also discussed in this section. The waste assessment areas are summarised in the table below.

Waste assessment area	Details
1	Current Love Factory site including all Plot NT02 building
2	Below ground areas of former Ryan Topsoil yard (excluding mounds)
3	Earth stockpiles in former Ryan Topsoil yard
4	Soils in current Network Rail Mound
5	Eastern part of the site, roughly corresponding to NT04

8.1 Hazardous Waste Assessment

8.1.1 A methodology for the classification of waste, and requirement for sampling, is specified in Technical Guidance WM3 (EA, 2021). The level of sampling should be proportionate to the volume of waste and its heterogeneity. The preliminary assessment provided below is indicative based only upon the available sample results and may not be sufficient to adequately classify the waste.

8.1.2 Envirolab, an RSK company, has developed a waste soils characterisation assessment tool (HASWASTE), which follows the guidance within Technical Guidance WM3. The analytical results have been assessed using this tool to assess the hazardous properties to support potential off-site disposal of materials in the future. Note that it is ultimately for landfills to confirm what wastes they are able to accept within the constraints of their permit.

8.1.3 The results are summarised in the table overleaf and presented in full in Appendix G.

Soil Assessment Area	No. samples tested	No. samples with hazardous properties	Details
1	54	12	**TP202 @0.50m** Carcinogenetic HP7 Toxic for Reproduction HP10 Ecotoxic HP14 Mutagenic HP11 **TP203 @ 0.3m** Carcinogenic HP7 Mutagenic HP11 **TP203 @ 1.2m** Carcinogenic HP7 Mutagenic HP11 Visible asbestos cement (2.563%) **WS301 @0.50m** Carcinogenic HP7 Ecotoxic HP14 Mutagenic HP11 **WS301 @ 3.5m** Carcinogenic HP7 Mutagenic HP11 **WS308 @ 1.0m** Carcinogenic HP7 Mutagenic HP11 **WS305 @ 0.5m** Carcinogenic HP7 Mutagenic HP11 **WS303 @ 0.4m, 1.2m, 1.8m, 3.1m** Carcinogenic HP7 Mutagenic HP11 Toxic for Reproduction HP10 Ecotoxic HP14 **RBH203 @ 3.0m** Carcinogenic HP7 Mutagenic HP11 **RBH502 @1.0m** Acute toxicity HP6 Carcinogenic HP7 Mutagenic HP11 Ecotoxic HP14

Soil Assessment Area	No. samples tested	No. samples with hazardous properties	Details
			RBH504 @ 1.4m Carcinogenic HP7 Toxic for reproduction HP10 Mutagenic HP11 Ecotoxic HP14 **RBH504 @ 1.9m** Carcinogenic HP7 Toxic for reproduction HP10 Mutagenic HP11 Ecotoxic HP14
2	16	7	**WS310 @0.40m** Carcinogenetic HP7 Mutagenic HP11 **TP310 @0.50m** Carcinogenetic HP7 Ecotoxic HP14 **MP302 @ 1.0m** Ecotoxic HP14 **MP304 @ 1.0m** Ecotoxic HP14 **TP305 @0.50m** Ecotoxic HP14 **TP309 @0.40m** Carcinogenetic HP7 Mutagenic HP11 **TP309 @1.00m** Carcinogenetic HP7
3	1	1	**MP301 @1.00m** Ecotoxic HP14
4	13	3	**RBH403 @0.50m** Carcinogenic HP7 Ecotoxic HP14 **RBH403 @3.50m** Carcinogenic HP7 Mutagenic HP11 Ecotoxic HP14

Soil Assessment Area	No. samples tested	No. samples with hazardous properties	Details
			RBH401 @1.00m Carcinogenic HP7 Mutagenic HP11 Ecotoxic HP14
5	18	11	**TP216 @1.20m** Carcinogenetic HP7 Toxic for Reproduction HP10 Ecotoxic HP14 **TP217 @0.50m** Carcinogenetic HP7 Toxic for Reproduction HP10 Ecotoxic HP14 **TP215 @1.00m** Carcinogenetic HP7 Toxic for Reproduction HP10 Ecotoxic HP14 **TP214 @0.80m** Carcinogenetic HP7 Toxic for Reproduction HP10 Ecotoxic HP14 **TP218 @0.50m** Carcinogenetic HP7 Ecotoxic HP14 **TP219 @0.50m** Carcinogenetic HP7 Ecotoxic HP14 **WS209 @0.40m** Carcinogenetic HP7 Toxic for Reproduction HP10 Ecotoxic HP14 **WS208 @0.40m** Carcinogenetic HP7 Mutagenic HP11 Ecotoxic HP14 **TP306 @0.50m** Carcinogenetic HP7 Ecotoxic HP14

Soil Assessment Area	No. samples tested	No. samples with hazardous properties	Details
			TP304 @0.50m Carcinogenetic HP7 Ecotoxic HP14 **TP304 @1.50m** Carcinogenetic HP7 Ecotoxic HP14

Asbestos Assessment

8.1.4 The Environment Agency publication '*Guidance on the classification and assessment of waste – WM3 (2018)*', requires that within a mixed waste, the separately identifiable wastes be assessed separately. For instance, where waste soil contains identifiable pieces of asbestos (visible to the naked eye) the asbestos should, where feasible, be separated from the soil and classified separately. This should be disposed of within a hazardous, stable non-reactive hazardous waste landfill or a special cell in a non-hazardous waste landfill.

8.1.5 With reference to WM3 (2018), wastes containing greater than 0.1% free and dispersed asbestos fibres are classified as **hazardous waste** with the code 17 05 03* (soils and stones containing hazardous substances). Where a waste contains identifiable pieces of ACM, then these pieces must be assessed separately.

8.1.6 Visible asbestos in the form of chrysotile and amosite cement has been identified in TP203 at 1.20m bgl (located within Soil Assessment Area 1). The quantification value of this has been assessed to be 2.563%. It should be noted that this analysis does not constitute a specialist assessment and only a small portion of the site soils have been observed. As such, other instances of visible asbestos may be present within made ground soils at the site which have not been analysed. The feasibility of removing visible pieces of ACM (and thus managing the hazardous potential of the soils) should be assessed by a specialist contractor. It may be possible, through additional sampling and analysis, to zone areas of asbestos containing soils, although, due to the density of sampling points required to provide confidence in this approach, this is likely to be a costly exercise with no guaranteed benefit.

8.1.7 Asbestos identifications in the Soil Assessment Areas are summarised in the table below:

Soil Assessment Area	No. samples tested	No. samples with positive asbestos identification	No. quantified above 0.1% hazardous threshold	Details
1	34	12	1	**TP203 @1.20m** 2.563% Chrysotile and Amosite cement
2	17	5	0	-
3	1	0	0	-
4	11	0	0	-
5	18	1	0	-

8.1.8 Laboratory testing has encountered positive identification of asbestos fibres within soils in three out of the five soil assessment areas, and these have undergone quantification assessment. In one of the soil assessment areas, analysis has recorded visible asbestos above the hazardous waste threshold of 0.1%. Consequently, it is feasible that Made Ground soils in Soil Assessment Area 1 contains asbestos above the hazardous waste threshold and can be characterised as requiring disposal at a hazardous waste facility.

8.2 Waste Classification

8.2.1 The above assessment indicates that some of the Made Ground will require disposal at a suitably permitted hazardous waste landfill or treatment facility. Soils in all the assessment areas display hazardous properties and/or asbestos containing materials. It is noted that, while soils in Soil Assessment Area 3 display these properties relatively rarely, we would also apply this designation to this area. Soils in Assessment Areas 1 display high concentrations of Trichloroethene. This specific determinant is not specified as part of the hazardous waste assessment, but nonetheless is objectively hazardous.

8.2.2 It is noted that soils remediation works are anticipated to be undertaken in Soil Assessment Area 1. It is feasible that the disposal options for some material from this location could be re-evaluated following completion of these works.

8.2.3 Notwithstanding the above, the waste assessment is a preliminary review of site investigation data and no targeting to delineate spatial distribution of waste has taken place. As such it should be considered as indicative and further testing completed across the site by contractors to further refine waste classifications and associated disposal costs.

8.3 WAC Assessment

8.3.1 Additionally, a testing regime has been established in '*Waste Sampling and Testing for Disposal to Landfill*' (2013) to determine the suitability of soils for disposal. This regime does not supersede the hazardous properties assessment presented above.

8.3.2 We have scheduled testing of samples for Waste Assessment Criteria on this basis, the results of which are presented in Appendix G. The testing is summarised in the table below:

Waste Assessment Area	Samples tested	Exceeds Acceptance Criteria for Hazardous Waste Landfill
1	WS203 @0.50m	**No***
	WS305 @1.00m	**No**
	WS304 @1.00m	**No***
	WS309 @1.00m	**No***
	RBH305 @0.50m	**No**
2	TP310 @0.50m	**No***
	TP301 @0.50m	**No***
3	MP301 @1.00m	**No***
	MP302 @1.00m	**No***

	MP304 @1.00m	**No***
4	HP301 @0.50m	**No***
	RBH402 @5.30m	**No**
	RBH403 @3.50m	**No***
5	WS211 @0.30m	**No***
	TP306 @0.50m	**No***
	TP304 @0.50m	**No***
***May require pre-treatment to achieve suitability for designated landfill class, due to high levels of total organic carbon**		

8.3.3 The results of the WAC testing indicate that the leaching limit values and/or* the additional criteria for hazardous waste have not been exceeded and therefore the waste is suitable for disposal at an appropriately licenced **none hazardous waste landfill**. We note that as specified above, the landfill may specify pre-treatment owing to high levels of organic carbon.

8.4 Preliminary Waste Assessment Notes

8.4.1 With reference to the Environment Agency's *publications Waste Sampling and Testing for Disposal to Landfill (2013)* and *Waste acceptance at landfills (2010)*, naturally occurring soils not likely to be affected by contamination can be classified as inert waste, with a EWC code of 17 05 04. Should any of the naturally deposited soils be suspected to contain contamination (by virtue of visual of olfactory evidence) upon excavation, then such soils should be stockpiled appropriately, and additional testing carried out as considered necessary. Based on evidence obtained during our investigations, we are of the opinion that the soils of the Devensian Till Formation, Chester Formation and Manchester Marls Formation at the site are not likely to be affected by chemical contamination and thus can be classified as inert waste.

8.4.2 The assessment of this report in regard to waste are indicative only and provide useful information to support future management of waste on site, which should be comprehensive and address all other legal and regulatory requirements. Extensive earthworks are anticipated at the site that will require Environmental Permits and Materials Management Plans. Further environmental testing of soils and subsequent treatment and processing may also be required. It may be necessary to consult with the Environment Agency before works commence to verify the proposed works and establish that material can be declassified as waste and re used on site in accordance with the most current guidance and Article 6(1) of the Waste Directive. These applications are the responsibility of the contractor. We can consult on these matters on request.

8.4.3 We recommend this report is provided to the selected contractors and landfill facilities to confirm (or otherwise) that waste can be managed and disposed of as above. Please be aware that landfill sites are obligated to undertake in house quality assurance tests and thus may require further WAC testing for any soils encountered as part of this investigation. There is no obligation on any landfill operator to accept waste if they choose not to and waste operators may require additional testing of untested waste soils prior to acceptance at landfill in accordance with the landfill regulations

9.0 Geotechnical & Foundation Design Assessment

Background Information

9.0.1 It is understood that the site is to be developed with a mixture of high and medium rise residential buildings, with the former to heights of between 20 and 35 stories and the latter to heights of between 4 and 8 storeys. The development is also anticipated to include small areas of soft landscaping, a new access road passing between NT02 and NT03 and continuing to the east along the southern site boundary and a retaining wall to retain soils in the Network Rail mound to the south of Plot NT03.

9.0.2 Site investigations indicated made ground to be present across the site, predominantly comprising demolition fill type material, underlain by Devensian Till Deposits predominantly comprised of clay which are generally thinner in the western portion of the site and thicker in the east. In some areas made ground directly overlies the weathered bedrock. There is a transition from the Chester Formation being the bedrock immediately underlying drift deposits to the Manchester Marls Formation in the vicinity of Plot NT03.

9.1 New Building Foundation Design

9.1.1 Site investigations have identified a variable thickness of made ground deposits beneath the site. It is not recommended new building foundations be constructed on top of made ground deposits. The variable composition and in-situ strength of these materials is such that unacceptable levels of total and differential settlement will occur as a result. Similarly natural superficial soils at the site have also been proven to be thin and unevenly distributed across the site where present.

9.1.2 Given the anticipated building loadings coupled and the presence of contaminated soils the adoption of conventional shallow foundations is not considered appropriate in this instance. The use of a piled foundation solution is recommended, with piles taken to competent rock within the Chester Formation and Manchester Marls Formations. Information has also been provided to allow the consideration of alternative foundation arrangements, such as a settlement reducing piled raft foundation, should the design team choose to further investigate this option.

9.1.3 A summary of rock quality across the site is presented in the table below. The rock shows signs of weathering or faulting with relatively poor rates of recovery and RQD. It should be noted that much of rock core recovered was not of sufficient quality for testing and the samples tested should not be taken as representative of the rock as a whole.

Table 9.1: Summary of UCS Values

Geological Unit	UCS tests (MPa)	Minimum Point Load Test I_{s50} (MPa)	Maximum Point Load Test I_{s50} (MPa)	Conversion Factor*	Mean Equivalent UCS (MPa)	Mean UCS (Direct Testing) (MPa)	Nominal UCS of sampled material (MPa)**
Chester Formation (Sandstone)	5.73	0.01	0.19	21.45	1.01	5.73	**3.37**
Manchester Marls (Shallow) <15.00m	8.11	0.02	1.42	21 - 21.45	4.33	8.02	**6.17**
	0.65						
	0.53						
	11.80						
	19.00						
Manchester Marls (Deep) > 15.00m	15.9	0.02	1.2	21 - 21.45	4.44	16.24	**10.34**
	12.4						
	10.4						
	15						
	25.5						
	18.1						
	17.4						
	10.8						
	20.7						

* Conversion factors for point load testing in relevant geologies in Aitalesh et al (2015).

** Nominal UCS values are averages of directly measured and derived UCS values. These values refer to tested material only and design should note that, as much of each strata is unrecoverable, these values may not be typical of the strata.

9.1.4 Piling specifications should be established with a piling specialist following distribution of this report and associated logs and test records. The piling depth should be sufficient to penetrate the weathered zone as detailed in Section 5.1.

9.1.5 Given the presence of contamination within site soils the consideration will need to be given to choosing a method that limits the potential for contaminant pathways to be created though site soils and into the underlying aquifer. Given the contaminative sources at the site, prior to foundation construction, a piling risk assessment (Foundation Works Risk Assessment) should be undertaken. It is also likely that a comprehensive enabling works package to break out and remove the existing below ground structures. A piling risk assessment will be required (regardless of the chosen method).

Plot NT02

9.1.6 Peak potential sulphate concentrations range between 10 and 1470mg/l with soil pH values ranging between 7.16 and 10.56 providing a characteristic pH of 7.62 and a characteristic sulphate of 940mg/l. Based on these results, it is considered that well compacted buried concrete should be designed in accordance with Class DS-2 AC-2 requirements as specified in BRE Digest Special Digest 1:2005 *Concrete in aggressive ground: Version 3*.

Plot NT03

9.1.7 Peak potential sulphate concentrations range between 22 and 1740mg/l with soil pH values ranging between 7.64 and 9.4 providing a characteristic pH of 7.8 and a characteristic sulphate of 1490mg/l. Based on these results, it is considered that well compacted buried concrete should be designed in accordance with Class DS-2 AC-1s requirements as specified in BRE Digest Special Digest 1:2005 *Concrete in aggressive ground: Version 3*. It should be noted that in a groundwater sample obtained from WS311 within made ground deposits a water soluble sulphate concentration of 2,650mg/l was reported. This would equate to DS-3 and it is recommended any concrete in contact with the water body in this area of the site match this specification.

Network Rail Mound

9.1.8 Peak potential sulphate concentrations range between 28 and 1450mg/l with soil pH values ranging between 7.86 and 8.67 providing a characteristic pH of 7.875 and a characteristic sulphate of 1435mg/l. Based on these results, it is considered that well compacted buried concrete should be designed in accordance with Class DS-2 AC-1s requirements as specified in BRE Digest Special Digest 1:2005 *Concrete in aggressive ground: Version 3*.

Plot NT04

9.1.9 Peak potential sulphate concentrations range between 10 and 504mg/l with soil pH values ranging between 6.78 and 9.30 providing a characteristic pH of 7.38 and characteristic sulphate of 405mg/l. Based on these results, it is considered that well compacted buried concrete should be designed in accordance with Class DS-1 AC1s requirements as specified in BRE Digest Special Digest 1:2005 *Concrete in aggressive ground: Version 3*.

9.2 Ground Floor Construction

9.2.1 In view of the thickness of made ground at the site, we recommend that either suspended ground floor slabs are adopted, or that ground improvement is undertaken to support the ground floor.

9.3 Below Ground Drainage

9.3.1 Buried services constructed in unimproved Made Ground soils may be subject to settlement and this should be considered during design. In particular water and sewerage pipes should not utilise shallow gradients that render them vulnerable to settlement.

9.4 Below Ground Obstructions

9.4.1 The site has been extensively developed with numerous historic phases of construction and demolition. Only a small portion of the below ground area has been investigated, and this has identified several relic structures and areas of loose ground. Further such obstructions and voids should be anticipated, which will have implications for the construction phase, such as presenting a potential obstacle to piling works.

9.5 Earthworks

9.5.1 Detailed recommendation relating to earthworks are presented in the following previously issued documents:

- Groundwork Specification: Excavating & Filling (ref. RDB-ROC-XX-XX-SP-C-600)
- Enabling Works Performance Specification (re. RDB-ROC-XX-XX-SP-C-0600)

9.5.2 Extensive geotechnical testing has been undertaken to enable design of earthworks. Samples from five locations have been subject to extensive testing to allow classification with respect to Table 6/2 in the SHW Series 600. The locations of these samples are indicated on drawing 4328-ROC-ZZ-XX-DR-ES-ES207 in Appendix A. Samples have been graded based on Particle Size Distribution and Uniformity Coefficient. The moisture content of samples, and dry density / moisture content relationship, has been determined through 4.5kg compaction testing.

Location	Top depth	Class (Grading)	Uniformity Coefficient	95% of Maximum Dry Density	Received Moisture Content	Achieves 95% at Received MC	Final Class
TP309	0.5	1A/1B	250	1.60	19	Yes	**1A**
TP306	0.5	1A/1B	250	1.84	22	No	**1A**
TP304	0.5	1A/1B	450	1.63	26	No	**1A**
RBH305	0.5	1A/1B	150	2.00	10	Yes	**1A**
HP301	0.5	2A/2B	-	1.42	23	Yes	**2B**

9.6 Network Rail Mound

9.6.1 A programme of works to investigate the ground conditions within and beneath the Network Rail mound was undertaken in September 2023. A total of 3 dynamic sample boreholes were formed with 2 of those being advance further with rotary drilling methods to a maximum depth of 21.00mbgl.

9.6.2 General ground conditions within the mound were found to comprise a surface layer of granular fill material with a significant organic content suspected to be comprise predominantly of wood mulch. Other constituents included ash and various anthropogenic inclusions including glass, plastic, clinker and brick. This initial granular material varied in depth from 1.00 to 3.50mbgl and commonly emitted a hydrocarbon odour. At RBH403 this surface layer was underlain by a clayey gravelly sand to 5.30mbgl, containing brick, metal, plastic and glass and emitting a hydrocarbon odour.

9.6.3 Underlying this initial granular layer were cohesive made ground deposits generally comprising a sandy gravelly clay containing brick, glass, clinker, coal and plastic. Hydrocarbon odours were also present within this material but generally reduced with depth. Some bands of granular made ground were also reported within this material. The predominantly cohesive material varied in depth from 9.20 to 10.50mbgl.

9.6.4 Natural soils were encountered underling cohesive made ground deposits and were generally encountered as sandy gravels, gravelly sands and silty sands with a layer of clay also encountered at RBH403. Bedrock was encountered at 19.30mbgl and 19.50mbgl in RBH401 and RBH403 respectively and comprised an extremely weak mudstone commonly weathered to clay.

9.6.5 The design sulphate classification for concrete within the mound is DC-2 AC-1s.

9.6.6 A number of exceedances of residential without plant uptake GACs were reported within the made ground deposits of the mound as detailed in section 6 of this report.

9.6.7 PSD and hydrometer testing was undertaken on samples obtained from all layers of soil contained within the mound to understand grading and is summarised in the table presented overleaf.

BH ID	Depth	Passing 63mm	Passing 2mm	Passing 0.063mm	Passing 0.002mm	D60	D10	Cobbles / Boulders %	Gravel %	Sand %	Silt/Clay %	Clay %	Uc	Soil Type
RBH401	0.2-1	100	66	20		1.18	0.063	0	34	46	20	0	18.73016	Granular
	12-13.20	86	42	10		20	0.063	14	44	32	10	0	317.4603	Granular
RBH402	5.3	99	97	64	26	0.063	-	1	2	33	38	26	-	Cohesive
	10.5-12	88	86	26		0.212	-	12	2	60	26	0	-	Granular
	10	96	94	68		0.063	-	4	2	26	68	0	-	Cohesive
RBH403	3.5-5.3	100	62	25		2	-	0	38	37	25	0	-	Granular
	17.5	99	97	43		0.212	-	1	2	54	43	0	-	Cohesive

9.6.8 It is understood a piled retaining structure is proposed within the area of the current mound feature, the construction of which will require access onto the upper portion for piling plant (with associated mat), formation of piles to socket in the underlying Mudstone (depth circa 19.5m below top of mound); and removal of surplus soils on the northern face to increase the developable area across the Plot NT03 site. The intention will be to reuse site won soils from the mound area as backfill material behind the retaining structure and to form a slope to the boundary fence subject to its suitability in both geo-environmental and geotechnical parameters.

9.6.9 As noted, the current mound comprises a range of soil types including a significant quantity of made ground material from a range of origins (some of which includes deleterious materials such as wood chip, plastic wastes and glass). It is evident from review of historical map records in this area the mound up to the existing railway was formed initially to facilitate the construction of a (now demolished) signal box, and that the slope has been subsequently added to and enlarged as a result of more recent soil storage operations on site. These operations are reflected in the variability of ground conditions reported during ground investigation works in this area, with no apparent consideration or specification of the material that have been used to form the slope feature.

9.6.10 Given the above, the direct reuse of site won made ground from the mound feature as backfill behind the proposed wall is not recommended, as its performance and suitability as bulk engineered fill cannot be guaranteed. If made ground is required for reuse it will be necessary to excavate, screen, process and sort the material into useable fractions (removing the aforementioned deleterious material that is noted) with appropriate segregation of suitable / unsuitable soils on site and geotechnical testing (in accordance with the requirements of Series 600 Specifications) to confirm its suitability for use. Similarly, site won made ground intended for reuse in this function will also need to comply with the chemical validation testing requirements to ensure no sources of contamination are present (as outlined in the Phase 3a Remediation Strategy for the site).

9.6.11 With respect to the reuse of natural soils, these were found to be of a predominantly granular nature, although were encountered at depths circa 9.20 to 10.50m below existing mound top level. Their re-use as engineered fill would be possible, subject to appropriate geotechnical and chemical validation screening and testing. Although, noting the depths at which this material occurs below ground level, it is unlikely natural soils will be excavated in significant quantities during earthworks operations.

9.6.12 All processing and reuse of soils within the mound remodelling works should fall within the wider Materials Management Plan for the site, with the contractors being responsible for discharging all of their statutory and legal requirements with respect to Waste Management legislation and regulations.

9.7 General Comments

9.7.1 No entry should be permitted into excavations exceeding 1.2m depth without appropriate risk assessments, shoring and support. Whilst groundwater was not encountered in superficial deposits, the bedrock groundwater level is relatively shallow, and it is feasible that this will rise during winter months. Appropriate provisions should be made to dewater excavations as and when required.

9.7.2 Similarly it is not recommended foundation excavations to underlying clay be left open and exposed to the elements as rainwater ingress will damage and reduce its strength. Similarly, no vehicular movements should be permitted within exposed foundation locations.

9.7.3 The geotechnical assessment has been collated based on the proposed development type, layout, and likely loadings at the time of report publication. It should be noted that future alterations to these proposals or loadings (including alterations in the site layout or new building scale) will require the re-interpretation of the current assessment. In such an instance updated design information should be provided to RoC Consulting and the current assessment updated accordingly.

10.0 Conclusions & Recommendations

10.0.1 The site is to be redeveloped for residential led apartment style end uses comprising a number of proposed high rise, midrise and low-rise buildings with some areas of soft landscaping. The development will comprise three distinct areas termed Plot NT02, NT03 and NT04 (as indicated on RoC drawing 4328-ROC-ZZ-XX-DR-ES-ES200 within Appendix A).

10.0.2 Site investigations have revealed variable depths of made ground across the site. Made ground material was found to generally comprise demolition fill type material most likely originating from the demolition of historic buildings on site, although anthropogenic inclusions such as coal, clinker and ash were also noted that may have originated from historical processes undertaken on site. Made ground deposits were generally underlain by cohesive Devensian Till deposits with some beds of granular material. Devensian Till is underlain by bedrock of the Chester Formation and Manchester Marl. The upper horizons of the bedrock are significantly weathered, and deeper rocks are also subject to faulting.

10.0.3 Made ground was typically found to extend to depths ranging between the following depths beneath development plots:

- Plot NT02: 0.65 and 3.20mbgl
- Plot NT03: 0.20 and 3.30mbgl
- Network Rail Mound: 9.20 and 10.50mbgl
- Plot NT04: 0.60 and 9.00mbgl (results are distorted by presence of material stockpiles in this plot)

10.0.4 As noted, Devensian till (or River Terrace Deposits beneath the Network Rail Mound) underlain made ground at the majority of locations with the weathered fractions of either sandstone or marl bedrock noted at the following range of depths beneath each plot:

- Plot NT02: 2.00 and 3.00mbgl (Sandstone)
- Plot NT03: 2.00 and 7.80mbgl (Sandstone/ Marl)
- Network Rail Mound: 19.30 and 19.50mbgl (Marl)
- Plot NT04: 4.70 and 10.00mbgl (Marl)

10.0.5 Overall the spatial distribution of made ground across the site was found to be variable, with locally deeper deposits clustered around areas of former industrial development or where terraced residential housing with now backfilled cellars were present. The bedrock topography indicates a fall in level from roughly east to west across the site, related to a fault line that is known to pass through the site roughly toward its centre with a north / south orientation.

10.0.6 Groundwater monitoring identified a groundwater body to be present in both the Chester Formation (which forms a Principal Aquifer) and the Manchester Marls Formation (which forms a Secondary B Aquifer); a shallow perched water table is also present within made ground and permeable drift deposits which is in contact with (and potential hydraulic connectivity with) the underlying bedrock formations.

10.0.7 The results from the initial Oct 2022 Phase 2 SI works have been complemented by the formation of supplementary deep boreholes and monitoring wells to further refine understanding of the site hydrogeological condition. The results indicate indicates a degree of variability with groundwater tables, aquifer characteristics and groundwater flows, with a mixture of highly permeable and lower permeability bedrock formations beneath the site separated by a geological fault roughly along its centre. This geology is reflected by variance in hydraulic heads between monitoring wells and increases in hydraulic gradient. Overall, the groundwater flow is trending from east to west toward the River Irk and in line with local surface topographical features in the Manchester Marl, and to the north / north east in the Chester Formation. The results from both rounds of investigations have been used to increase our understanding of groundwater flows and potential interactions with contaminants present on site.

Geo-environmental Comments

10.0.8 Evidence of contamination has been recorded across the site in Made Ground deposits, including metals, asbestos and TPH. These contaminants are currently contained beneath building and of hard standing across the majority of the site and are not considered to pose a significant risk to users of the temporary event space in NT02. However, this contamination poses a potential risk to users of the proposed residential development and application of a capping system should be considered within the remediation strategy for the site, refer to section 7.0.5.

10.0.9 Evidence of Trichloroethene contamination (TCE) was also noted within the area of the Plot NT02 portion of the site, and a limited section of the NT03 site, believed to be as a result of former metal working or bolt manufacturing historically located to the south of this plot. The contamination distribution in soils was found to cluster toward the southern portion of the existing warehouse although a data gap is noted within the data beneath the warehouse to the north due to its current use as a temporary event space and associated restricted access. The spatial distribution of this TCE contamination (both depth and spatial terms) does not show a corelation with a “point source” type release and instead most probably relates to longer term leakage and spillage of degreasing agents used in this former operation into drainage networks, through cracks in floor slabs, or through distribution due to demolition activities.

10.0.10 The TCE contamination has the potential to affect human health, groundwater and the River Irk. The source of the contamination is considered to be onsite and has been further considered via the completion of a Detailed Quantitative Risk Assessment. The overall spatial extent of this contamination plume has been defined based on date from various ground investigation works. However, further sampling and assessment will be required during the demolition and enabling works phase to confirm its precise extent.

10.0.11 The results of the Detailed Quantitative Risk Assessment indicate the TCE contamination (and its daughter products) pose a risk to off-site receptors and will warrant remediation. The subsequent interpretive assessment of modelling works has allowed Remedial Target Values to be derived for the treatment of soil and groundwaters beneath the site which will need to be considered as part of the wider design for ground remedial works.

10.0.12 Given the potential presence of the aforementioned contamination within the area of Plot NT02 and potential risks posed toward construction / demolition contractors during the enabling works phase, it is recommended that any ground remediation works are completed (ideally) in advance of main construction contract. If the demolition of buildings in this area is proposed existing floor slabs should be retained and not removed until any ground remediation works are instructed and underway. This is owing to the fact they currently impeded the infiltration of rainwater and surface water run-off into site soils and associated contamination mobility and leachate generation.

10.0.13 On the basis of hazardous waste testing, Trichloroethene contamination, and identification of Asbestos in soils at the site, it is likely that areas of Made Ground soils at the across Plot NT02 (and other areas of the site) will require disposal as Hazardous Waste. Further testing should be completed by contractors during the earthworks process to confirm these classifications and your attention is drawn to our initial waste screening assessment within Section 8 of the current report for further information on this issue.

10.0.14 Ground gas monitoring has revealed elevated levels of Carbon Dioxide and depleted Oxygen levels in monitoring wells installed into made ground and shallow natural deposits on Plot NT02. Carbon Dioxide levels are consistently above 5% on this plot and on occasion in exceedance of 10% and therefore the Plot has been assessed as being a Characteristic Situation 2 and thus requiring a gas membrane to be installed. Gas monitoring of Plot NT03 has revealed elevated levels of Carbon Dioxide Plot NT04 has been characterised as Characteristic Situation 1 and no remedial measures are envisaged in regard to ground gas.

Geotechnical Comments

10.0.15 The bedrock encountered on site was found to vary between the Chester Formation (sandstone) and Manchester Marls Formation (Predominantly mudstone with bands of siltstone and sandstone). The former was present on Plot NT02 only and is underlain by bedrock of the Manchester Marls formation. The Chester Formation is present only in the west of the site, where superficial deposits directly overly the Manchester Marl. A potential geological fault was identified through the site in the Phase 1 Desk Study Report.

10.0.16 Given the anticipated building loadings and the presence of contamination beneath the site, the adoption of a piled foundation solution is recommended for the development. Piles should be founded in the competent rock of the Chester Formation and Manchester Marls Formation. Sufficient information is provided for detailed pile design by a specialist contractor. It is noted that bedrock recovery at the site is relatively poor, and the rock may have been affected by faulting.

10.0.17 The site has been extensively developed with numerous historic phases of construction and demolition. Only a small portion of the below ground area has been investigated, and this has identified several relic structures and areas of loose ground. Further such obstructions and voids should be anticipated, which will have implications for the construction phase, such as presenting a potential obstacle to piling works. Removal of these obstructions may be required prior to development.

10.0.18 Detailed information is provided on the foundation arrangements for the Network Rail Viaduct to the southern site boundary. Findings of our investigation into the presence of a wall to the rear of the Network Rail mound are published in a separate report.

Recommendations for Further Works

10.0.19 We would make the following recommendations for work areas to support the sites redevelopment for intended high rise apartment style residential end uses:

1) A Phase 3a Remediation Strategy should be prepared for the site within which details of all associated remediation requirements should be outlined, along with validation and monitoring requirements.

2) Efforts should be made to mark and protect all existing groundwater monitoring wells across the site to prevent any future damage from occurring. These wells may be required for future monitoring and groundwater remediation trial testing to confirm the design of TCE treatment methods. A plan showing well locations should be shared with site owners and any persons using the site and efforts made to protect them (e.g., enclosing with concrete manhole rings at ground level and clearly marking with warning signs and paint).

3) The updated DQRA model report should be shared with the regulatory authorities for consideration and comment.

4) Initial discussions should be held with remediation contractors and copies of the current report provided for consideration as part of a wider remediation options appraisal process. These remediation works are likely to comprise the treatment of grossly impacted soils in the areas of known contamination and potential treatment of groundwater (depending on the results of the DQRA process).

5) Other remedial measures such as a general watching brief during construction works with any suspected sources of contamination discovered during the site development (outside those discussed in this report) brought to the attention of RoC Consulting and their implications assessed. Depending on the extent and severity, the findings and assessment of the current study may require re-interpretation.

6) A soil capping layer should be employed within areas of soft landscaping in order to inhibit any potential pathways from site soils to future site users. The extent and nature of remediation works should be detailed by a future Remediation Strategy.

7) It is recommended that, once the locations of buried water pipes and any remedial works have been established, a United Utilities Risk Assessment is completed along the proposed route of water supply pipes following the completion of bulk earthworks operations.

8) A piling risk assessment in accordance with published Environment Agency Guidance “Piling into Contaminated Sites” will be required prior to development and discussions should be held with piling contractors to confirm most appropriate pile types, carrying capacities and termination depths as part of the wider design process.

9) The presence of below ground obstructions should be anticipated beneath the site and it would be prudent to prepare a series of historical development overlay plans showing the extent of various phases of development and areas where deeper obstructions may be present. Earthworks operations should include for the removal of below ground obstructions encountered and around pile locations.

10) Dewatering may be required locally depending on depths of excavations and groundwater table levels. This may encounter contaminated groundwater beneath the site depending on the timing of excavation works (in context of any remediation works) and their location. Due consideration should be given by contractors as to how to manage groundwater ingress and its subsequent disposal.

11) Copies of this report and the previous Phase 1 desktop study should be provided to the regulatory authorities (Manchester City Council and the Environment Agency) for consideration and comment as part of the wider planning process.

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX A – SITE DRAWINGS

RIVER IRK

DALTON ST.

DANTZIC ST.

NT04
Midrise
4

NT04
Tower 4

NT04
Tower 5

TRAVIS
SQUARE

NT04
Tail 5

NT03
Tail 3

NT03
Tower 2

NT04
Tail 4

TRAVIS
CORNER

NT03
Tower 3

DULWICH ST.

NT02
Clubhouse

NT03
Midrise 3

NT02
Tower 1

DULWICH ST.

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Do not scale from this drawing. Verify all dimensions on site. Drawing should be read in conjunction with information from all other design consultants and contractors. All drawings in digital format are for reference only, paper copies are available on request.

0 10 30m

Legend

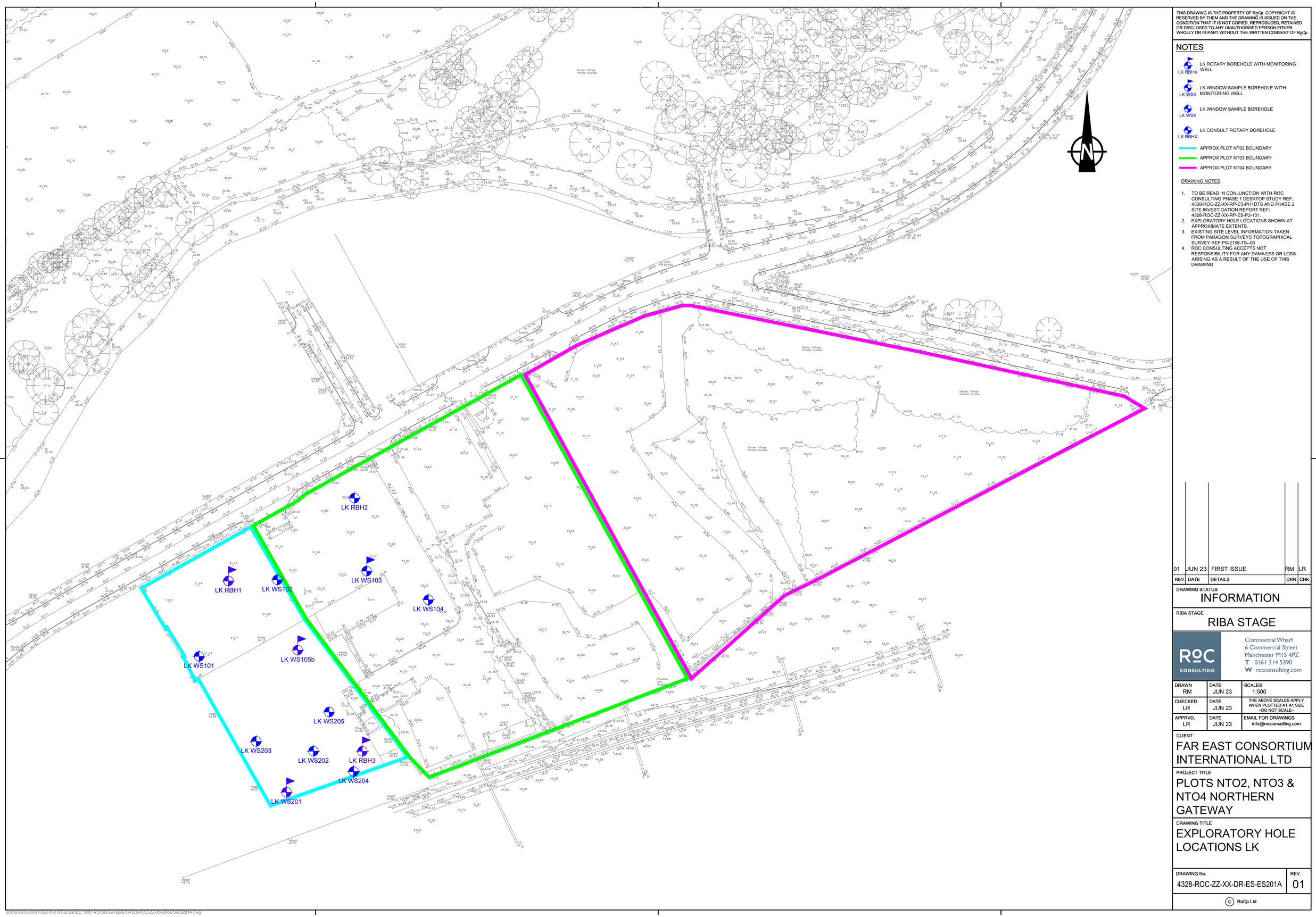
Application boundary

Land owned or controlled by the applicant

Rev	Details	Date
P10.01	S0-Initial Status	02/06/2023
P09.04	S0-Initial Status	13/04/2023
P09.01	S0-Initial Status	31/03/2023
P08.01	S0-Initial Status	16/03/2023
P07.04	S0-Initial Status	14/03/2023

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Proj. No. RDB
Project Red Bank NT04
Status S0-Initial Status
Sheet Name Site Plan
Client FEC
CDE ID RDB-MLA-00-XX-DR-AR-01110000
Scale 1:500
Size A1
Rev. P10.01



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- LK WSX — LK WINDOW SAMPLE BOREHOLE WITH MONITORING WELL
- LK WSX — LK WINDOW SAMPLE BOREHOLE
- LK RBHX — LK CONSULT ROTARY BOREHOLE
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- APPROX PLOT NT04 BOUNDARY

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SITE FEATURES

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ROC RBH2XX — ROC 2022 WINDOW SAMPLE BOREHOLE

ROC TP2XX — ROC 2022 TRIAL PIT

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

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- ROC WS3XX — ROC 2023 WINDOW SAMPLE BOREHOLE
- ROC TP3XX — ROC 2023 TRIAL PIT
- ROC SS3XX — ROC 2023 SURFACE WATER SAMPLE
- ROC HP3XX — ROC 2023 MOUND HANDPIT
- ROC RBH4XX — ROC 2023 NR MOUND BOREHOLE
- ROC RBH5XX — ROC 2023 ADDITIONAL TCE BOREHOLES
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- APPROX PLOT NT04 BOUNDARY

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- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY

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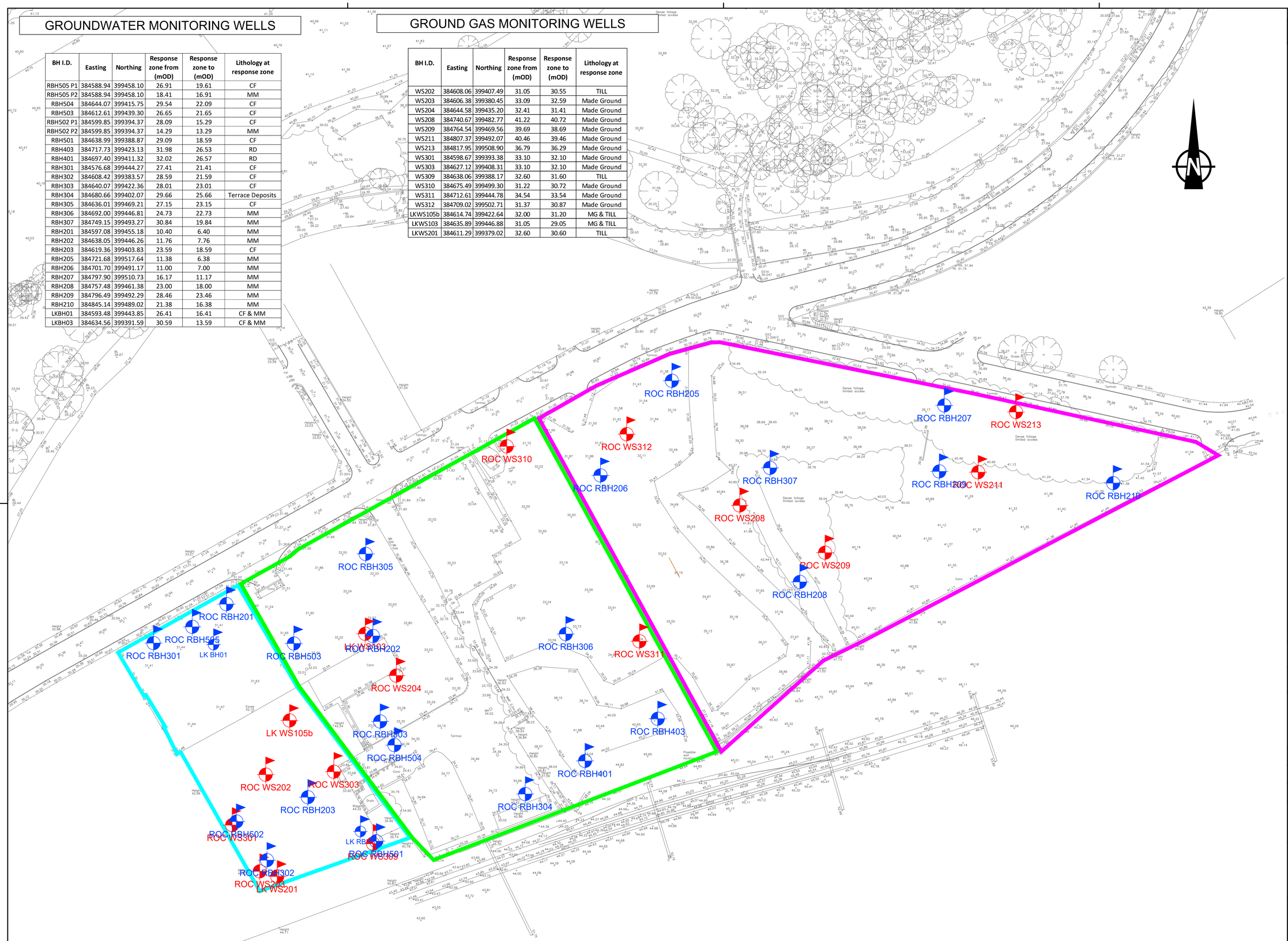
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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
RBH502 P2	384599.85	399394.37	14.29	13.29	MM
RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

GROUND GAS MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
WS202	384608.06	399407.49	31.05	30.55	TILL
WS203	384606.38	399380.45	33.09	32.59	Made Ground
WS204	384644.58	399435.20	32.41	31.41	Made Ground
WS208	384740.67	399482.77	41.22	40.72	Made Ground
WS209	384764.54	399469.56	39.69	38.69	Made Ground
WS211	384807.37	399492.07	40.46	39.46	Made Ground
WS213	384817.95	399508.90	36.79	36.29	Made Ground
WS301	384598.67	399393.38	33.10	32.10	Made Ground
WS303	384627.12	399408.31	33.10	32.10	Made Ground
WS309	384638.06	399388.17	32.60	31.60	TILL
WS310	384675.49	399499.30	31.22	30.72	Made Ground
WS311	384712.61	399444.78	34.54	33.54	Made Ground
WS312	384709.02	399502.71	31.37	30.87	Made Ground
LKWS105b	384614.74	399422.64	32.00	31.20	MG & TILL
LKWS103	384635.89	399446.88	31.05	29.05	MG & TILL
LKWS201	384611.29	399379.02	32.60	30.60	TILL



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NOTES

ROC RBH3XX — GROUNDWATER MONITORING WELL

ROC RBH3XX — GROUND GAS MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

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1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
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02	NOV 23	ADDITIONAL BOREHOLES	JF	RM
01	JUN 23	FIRST ISSUE	JF	RM

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W rocconsulting.com

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CLIENT
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PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
GROUND GAS AND GROUNDWATER INSTALL LOCATIONS

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES202	02

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NOTES

- ROC RBH3XX — ROC 2023 ROTARY BOREHOLE (ENVIRONMENTAL OR COMBINED)
- ROC RBH3XX — ROC 2023 ROTARY BOREHOLE (GEOTECHNICAL ONLY)
- ROC RBH2XX — ROC 2022 ROTARY BOREHOLE
- ROC RBH40X — ROC CONSULTING MOUND BOREHOLE
- ROC RBH50X — ROC CONSULTING ADDITIONAL TCE INVESTIGATION BOREHOLE
- APPROX PLOT NT02 BOUNDARY
- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY
- CONTOUR PLAN KEY



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CHESTER FORMATION SANDSTONE

MANCHESTER MARLS MUDSTONE

ROC RBH205 ROC RBH206 ROC RBH207 ROC RBH209 ROC RBH210 ROC RBH307 ROC RBH208 ROC RBH306 ROC RBH403 ROC RBH402 ROC RBH401 ROC RBH404 ROC RBH305 ROC RBH301 ROC RBH305 ROC RBH302 ROC RBH303 ROC RBH501 ROC RBH502 ROC WS301 ROC WS302 ROC WS303 ROC WS304 ROC WS304 ROC RBH501 ROC RBH302 ROC WS308

REV.	DATE	DETAILS	DRN.	CHK.
03	DEC 23	UPDATE WITH ADDITIONAL SI DATA	RM	LR
02	JUL 23	SECOND ISSUE	RM	LR
01	JUN 23	FIRST ISSUE	RM	LR

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PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
TOP OF CHESTER FORMATION CONTOUR PLAN

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES204A	03

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- ROC 2023 ROTARY BOREHOLE (GEOTECHNICAL ONLY) — ROC RBH3XX
- ROC 2022 ROTARY BOREHOLE — ROC RBH2XX
- LK CONSULT AS DUG ROTARY BOREHOLE — LK RBHX
- ROC CONSULTING MOUND BOREHOLE — ROC RBH40X
- ROC CONSULTING ADDITIONAL TCE INVESTIGATION BOREHOLE — ROC RBH50X
- APPROX PLOT NT02 BOUNDARY
- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY

34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15

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PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
MANCHESTER MARLS CONTOUR PLAN

DRAWING No. 4328-ROC-ZZ-XX-DR-ES-ES204B
REV. 03

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
RBH502 P2	384599.85	399394.37	14.29	13.29	MM
RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBH3XX — GROUNDWATER MONITORING WELL

ROC RBH3XX — GROUND GAS MONITORING WELL

- APPROX PLOT NT02 BOUNDARY
- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY

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CLIENT: FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE: PLOTS NT02, NT03 & NT04 NORTHERN GATEWAY

DRAWING TITLE: GROUNDWATER CONTOURS ALL LITHOLOGIES APRIL TO JUNE 2023

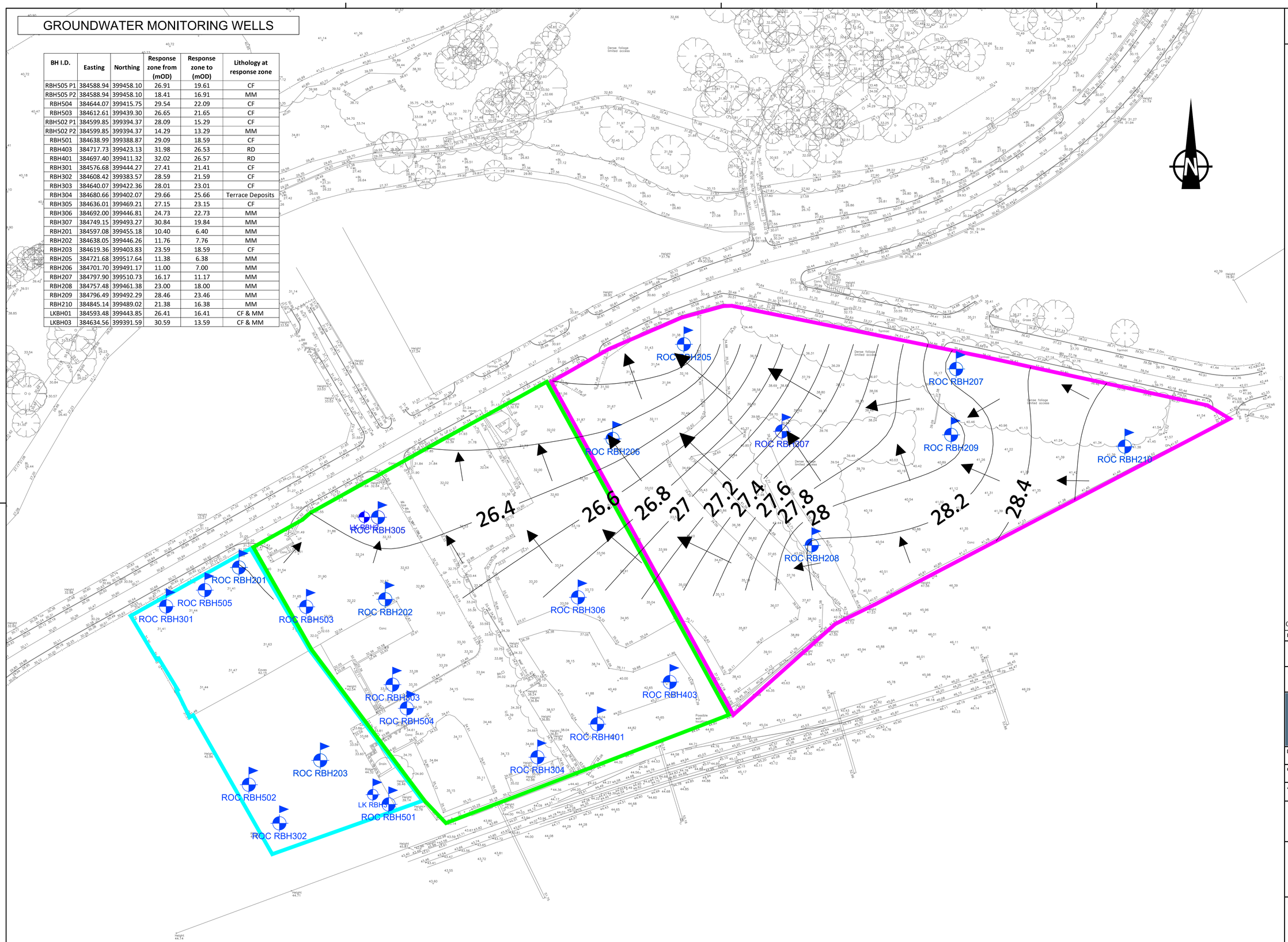
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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
RBH502 P2	384599.85	399394.37	14.29	13.29	MM
RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM



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NOTES

ROC RBH3XX — GROUNDWATER MONITORING WELL

ROC RBH3XX — GROUND GAS MONITORING WELL

- APPROX PLOT NT02 BOUNDARY
- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY

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PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
GROUNDWATER CONTOURS MARLS SEPTEMBER 2022

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES201B	01

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
RBH502 P2	384599.85	399394.37	14.29	13.29	MM
RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

ROC RBH205
ROC RBH207
ROC RBH206
ROC RBH307
ROC RBH209
ROC RBH210
ROC RBH208
ROC RBH305
ROC RBH306
ROC RBH201
ROC RBH505
ROC RBH301
ROC RBH503
ROC RBH202
ROC RBH403
ROC RBH303
ROC RBH504
ROC RBH401
ROC RBH304
ROC RBH203
ROC RBH502
LK RBH01
ROC RBH501
ROC RBH302
26.6
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NOTES

ROC RBH3XX — GROUNDWATER MONITORING WELL

ROC RBH3XX — GROUND GAS MONITORING WELL

- APPROX PLOT NT02 BOUNDARY
- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY

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RM	JUN 23	1:500
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CLIENT
FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
GROUNDWATER CONTOURS CHESTER FORMATION & MARL APRIL TO JUNE 2023

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES205C	01

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
RBH502 P2	384599.85	399394.37	14.29	13.29	MM
RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBH3XX GROUNDWATER MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
2. EXPLORATORY HOLE LOCATIONS SHOWN AT APPROXIMATE EXTENTS.
3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
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REV.	DATE	DETAILS	DRN.	CHK.
01	JUN 23	FIRST ISSUE	RM	LR

DRAWING STATUS: INFORMATION

RIBA STAGE:

RoC CONSULTING
Commercial Wharf
6 Commercial Street
Manchester M15 4PZ
T 0161 214 5390
W rocconsulting.com

DRAWN: RM	DATE: JUN 23	SCALES: 1:500
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APPRVD.: LR	DATE: JUN 23	EMAIL FOR DRAWINGS info@rocconsulting.com

CLIENT: FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE: PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE: GROUNDWATER CONTOURS MARLS DECEMBER 2022 TO FEBURARY 2023

DRAWING No.: 4328-ROC-ZZ-XX-DR-ES-ES205D

REV.: 01

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
RBH502 P2	384599.85	399394.37	14.29	13.29	MM
RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBHXXX GROUNDWATER MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
2. EXPLORATORY HOLE LOCATIONS SHOWN AT APPROXIMATE EXTENTS.
3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
4. ROC CONSULTING ACCEPTS NOT RESPONSIBILITY FOR ANY DAMAGES OR LOSS ARISING AS A RESULT OF THE USE OF THIS DRAWING

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INFORMATION

RIBA STAGE

RoC CONSULTING
Commercial Wharf
6 Commercial Street
Manchester M15 4PZ
T 0161 214 5390
W rocconsulting.com

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CLIENT
FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
GROUNDWATER CONTOURS CHESTER FORMATION 31/07/2023

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES205E	01

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
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RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBHXXX GROUNDWATER MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
2. EXPLORATORY HOLE LOCATIONS SHOWN AT APPROXIMATE EXTENTS.
3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
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6 Commercial Street
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APPRVD. AS	DATE DEC 23	EMAIL FOR DRAWINGS info@rocconsulting.com

CLIENT
FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
GROUNDWATER CONTOURS CHESTER FORMATION 31/08/2023

DRAWING No. 4328-ROC-ZZ-XX-DR-ES-ES205F

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
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RBH503	384612.61	399439.30	26.65	21.65	CF
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RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBHXXX GROUNDWATER MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
2. EXPLORATORY HOLE LOCATIONS SHOWN AT APPROXIMATE EXTENTS.
3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
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6 Commercial Street
Manchester M15 4PZ
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CLIENT
FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
GROUNDWATER CONTOURS CHESTER FORMATION 13/11/2023

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES205G	01

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
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RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
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RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
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RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBHXXX GROUNDWATER MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
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INFORMATION

RIBA STAGE

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6 Commercial Street
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W rocconsulting.com

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CLIENT
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PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
GROUNDWATER CONTOURS CHESTER FORMATION 20/11/2023

DRAWING No. 4328-ROC-ZZ-XX-DR-ES-ES205H

REV. 01

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
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RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBHXXX GROUNDWATER MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
2. EXPLORATORY HOLE LOCATIONS SHOWN AT APPROXIMATE EXTENTS.
3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
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CLIENT: FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE: PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE: GROUNDWATER CONTOURS CHESTER FORMATION 01/12/2023

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES205I	01

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
RBH502 P2	384599.85	399394.37	14.29	13.29	MM
RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBHXXX — GROUNDWATER MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
2. EXPLORATORY HOLE LOCATIONS SHOWN AT APPROXIMATE EXTENTS.
3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
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DRAWING STATUS: INFORMATION

RIBA STAGE:

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Commercial Wharf
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CLIENT: FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE: PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE: GROUNDWATER CONTOURS MANCHESTER MARLS 31/08/2023

DRAWING No.: 4328-ROC-ZZ-XX-DR-ES-ES205J

REV.: 01

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GROUNDWATER MONITORING WELLS

BH I.D.	Easting	Northing	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone
RBH505 P1	384588.94	399458.10	26.91	19.61	CF
RBH505 P2	384588.94	399458.10	18.41	16.91	MM
RBH504	384644.07	399415.75	29.54	22.09	CF
RBH503	384612.61	399439.30	26.65	21.65	CF
RBH502 P1	384599.85	399394.37	28.09	15.29	CF
RBH502 P2	384599.85	399394.37	14.29	13.29	MM
RBH501	384638.99	399388.87	29.09	18.59	CF
RBH403	384717.73	399423.13	31.98	26.53	RD
RBH401	384697.40	399411.32	32.02	26.57	RD
RBH301	384576.68	399444.27	27.41	21.41	CF
RBH302	384608.42	399383.57	28.59	21.59	CF
RBH303	384640.07	399422.36	28.01	23.01	CF
RBH304	384680.66	399402.07	29.66	25.66	Terrace Deposits
RBH305	384636.01	399469.21	27.15	23.15	CF
RBH306	384692.00	399446.81	24.73	22.73	MM
RBH307	384749.15	399493.27	30.84	19.84	MM
RBH201	384597.08	399455.18	10.40	6.40	MM
RBH202	384638.05	399446.26	11.76	7.76	MM
RBH203	384619.36	399403.83	23.59	18.59	CF
RBH205	384721.68	399517.64	11.38	6.38	MM
RBH206	384701.70	399491.17	11.00	7.00	MM
RBH207	384797.90	399510.73	16.17	11.17	MM
RBH208	384757.48	399461.38	23.00	18.00	MM
RBH209	384796.49	399492.29	28.46	23.46	MM
RBH210	384845.14	399489.02	21.38	16.38	MM
LKBH01	384593.48	399443.85	26.41	16.41	CF & MM
LKBH03	384634.56	399391.59	30.59	13.59	CF & MM

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NOTES

ROC RBHXXX — GROUNDWATER MONITORING WELL

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
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CLIENT
FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE
PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE
GROUNDWATER CONTOURS
MANCHESTER MARLS
20/11/2023

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES205K	01

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NOTES

ROC TP2XX — ROC FOUNDATION EXPOSURE

ROC HP2XX — ROC 2023 HAND PIT (MOUND)

APPROX PLOT NT02 BOUNDARY

APPROX PLOT NT03 BOUNDARY

APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
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PROJECT TITLE: PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE: STRUCTURAL EXCAVATIONS PHOTOGRAPHY PLAN

DRAWING No.	REV.
4328-ROC-ZZ-XX-DR-ES-ES206	01

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NOTES

- LK WSX — LK AS DUG WINDOW SAMPLE BOREHOLE
- LK RBHX — LK CONSULT AS DUG ROTARY BOREHOLE
- ROC RBH2XX — ROC 2022 ROTARY BOREHOLE
- ROC WS2XX — ROC 2022 WINDOW SAMPLE BOREHOLE
- ROC TP2XX — ROC 2022 TRIAL PIT
- ROC RBH3XX — ROC 2023 ROTARY BOREHOLE (ENVIRONMENTAL OR COMBINED)
- ROC RBH3XX — ROC 2023 ROTARY BOREHOLE (GEOTECHNICAL ONLY)
- ROC WS3XX — ROC 2023 WINDOW SAMPLE BOREHOLE
- ROC TP3XX — ROC 2023 TRIAL PIT
- ROC HP301 — ROC 2023 HAND PIT (MOUND)
- ROC RBH4XX — ROC 2023 NR MOUND BOREHOLE
- ROC RBH5XX — ROC 2023 ADDITIONAL TCE BOREHOLES
- SOIL ASSESSMENT AREA 1
- SOIL ASSESSMENT AREA 2
- SOIL ASSESSMENT AREA 3
- SOIL ASSESSMENT AREA 4
- SOIL ASSESSMENT AREA 5

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
2. EXPLORATORY HOLE LOCATIONS SHOWN AT APPROXIMATE EXTENTS.
3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
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PROJECT TITLE: PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE: SOI. ASSESSMENT AREAS AND GRADING

DRAWING No.: 4328-ROC-ZZ-XX-DR-ES-ES207

REV.: 02

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	WS202
Date	21/7/22
Trichloroethene	<0.001
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	RBH503
Date	31/10/23
Trichloroethene	<0.001
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	TP203
Date	12/7/22
Trichloroethene	<0.001
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	WS204
Date	13/7/22
Trichloroethene	<0.001
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	RBH504
Date	02/11/23
Trichloroethene	0.049
SUM - 1,2 Dichloroethene (cis and trans)	0.009
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	RBH502
Date	03/11/23
Trichloroethene	0.018
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.002
Chloroform	<0.001

	RBH502
Date	07/11/23
Trichloroethene	0.011
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.028
Chloroform	0.005

	RBH505
Date	31/10/23
Trichloroethene	<0.001
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	WS301
Date	04/04/23
Trichloroethene	0.067
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.005
Chloroform	0.002

	WS301
Date	04/04/23
Trichloroethene	0.043
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.003
Chloroform	0.002

	WS304
Date	04/04/23
Trichloroethene	0.074
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.004
Chloroform	<0.001

	WS203
Date	21/7/22
Trichloroethene	0.03
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	WS307
Date	04/04/23
Trichloroethene	0.066
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	0.001

	WS302
Date	04/04/23
Trichloroethene	0.004
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	RBH203
Date	25/07/22
Trichloroethene	0.006
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	WS303
Date	03/04/23
Trichloroethene	0.036
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.008
Chloroform	0.002

	WS303
Date	03/04/23
Trichloroethene	0.007
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	WS306
Date	04/4/23
Trichloroethene	0.15
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	0.002

	WS306
Date	04/4/23
Trichloroethene	0.006
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	TP202
Date	13/07/22
Trichloroethene	0.012
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	WS308
Date	03/4/23
Trichloroethene	1.13
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.038
Chloroform	0.013

	WS308
Date	03/04/23
Trichloroethene	0.039
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	WS309
Date	03/04/23
Trichloroethene	0.003
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	RBH501
Date	01/11/23
Trichloroethene	0.151
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	<0.001
Chloroform	<0.001

	WS305
Date	03/04/23
Trichloroethene	0.427
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.009
Chloroform	0.005

	WS305
Date	03/04/23
Trichloroethene	0.06
SUM - 1,2 Dichloroethene (cis and trans)	<0.001
Vinyl Chloride	<0.001
Carbon Tetrachloride	0.002
Chloroform	0.001

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NOTES

TRICHLOROETHENE CONTAMINATION

- ROC RBH3XX — ROC 2023 ROTARY BOREHOLE (ENVIRONMENTAL OR COMBINED)
- ROC WS3XX — ROC 2023 WINDOW SAMPLE BOREHOLE
- ROC TP2XX — ROC 2023 TRIAL PIT
- ROC RBH2XX — ROC 2022 ROTARY BOREHOLE
- ROC RBH2XX — ROC 2022 WINDOW SAMPLE BOREHOLE

- MADE GROUND
- DEVENSIAN TILL
- CHESTER FORMATION
- MANCHESTER MARL
- CHLORINATED SOLVENT EXCEEDANCE OF GAC
- CHLORINATED SOLVENT BELOW GAC
- CHLORINATED SOLVENT NON-DETECT
- APPROX OUTLINE OF HISTORIC BOLTWORKS
- APPROX PLOT NT02 BOUNDARY
- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
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3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
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01	JUN 23	FIRST ISSUE	RM	LR

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DRAWN: RM	DATE: JUN 23	SCALES: 1:500
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APPRVD.: LR	DATE: JUN 23	EMAIL FOR DRAWINGS info@rocconsulting.com

CLIENT: FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE: PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE: VOC CONTAMINATION DISTRIBUTION SOIL

DRAWING No.: 4328-ROC-ZZ-XX-DR-ES-ES208

REV.: 02

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NOTES

- ROC RBH3XX — ROC 2023 ROTARY BOREHOLE (ENVIRONMENTAL OR COMBINED)
- ROC RBH2XX — ROC 2022 ROTARY BOREHOLE
- LK RBHX — LK ROTARY BOREHOLE WITH INSTALL
- LK RBHX — ROC 2023 PHASE ADDITIONAL TCE BOREHOLES
- ROC WS311 — ROC 2023 WINDOW SAMPLE BOREHOLE

MONITORING WELL RESPONSE ZONE GEOLOGY

- CHESTER FORMATION AND MANCHESTER MARL FORMATION
- CHESTER FORMATION
- MANCHESTER MARL FORMATION
- MADE GROUND
- EXCEEDANCE OF CONTROLLED WATER GAC
- APPROX PLOT NT02 BOUNDARY
- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY

DRAWING NOTES

1. TO BE READ IN CONJUNCTION WITH ROC CONSULTING PHASE 1 DESKTOP STUDY REF: 4328-ROC-ZZ-XX-RP-ES-PH1DTS AND PHASE 2 SITE INVESTIGATION REPORT REF: 4328-ROC-ZZ-XX-RP-ES-P2-101.
2. EXPLORATORY HOLE LOCATIONS SHOWN AT APPROXIMATE EXTENTS.
3. EXISTING SITE LEVEL INFORMATION TAKEN FROM PARAGON SURVEYS TOPOGRAPHICAL SURVEY REF:PS-2158-TS--00
4. ROC CONSULTING ACCEPTS NOT RESPONSIBILITY FOR ANY DAMAGES OR LOSS ARISING AS A RESULT OF THE USE OF THIS DRAWING

	RBH201	RBH201 (Duplicate)
Date	27/09/2022	27/09/2022
Trichloroethene	<1	<1
SUM - 1,2 Dichloroethene (cis and trans)	4	<1
Vinyl Chloride	<1	<1
Carbon Tetrachloride	<1	<1
Chloroform	<1	<1

	RBH505 P1
Date	13/11/2023
Trichloroethene	<1
SUM - 1,2 Dichloroethene (cis and trans)	<1
Vinyl Chloride	<1
Carbon Tetrachloride	<1
Chloroform	<1

	RBH505 P2
Date	13/11/2023
Trichloroethene	<1
SUM - 1,2 Dichloroethene (cis and trans)	<1
Vinyl Chloride	<1
Carbon Tetrachloride	<1
Chloroform	1

	RBH301	RBH301
Date	04/05/2023	10/05/2023
Trichloroethene	<1	<1
SUM - 1,2 Dichloroethene (cis and trans)	86	102
Vinyl Chloride	2	1
Carbon Tetrachloride	<1	<1
Chloroform	<1	<1

	LKBH01	LKBH01 (Duplicate)	LK BH01
Date	27/09/2022	27/09/2022	19/01/2023
Trichloroethene	2	2	2
SUM - 1,2 Dichloroethene (cis and trans)	490	485	602
Vinyl Chloride	16	15	11
Carbon Tetrachloride	<1	<1	3
Chloroform	<1	<1	2

	RBH502 P1
Date	13/11/2023
Trichloroethene	3
SUM - 1,2 Dichloroethene (cis and trans)	<1
Vinyl Chloride	<1
Carbon Tetrachloride	24
Chloroform	21

	RBH502 P2
Date	20/11/2023
Trichloroethene	4
SUM - 1,2 Dichloroethene (cis and trans)	80
Vinyl Chloride	<1
Carbon Tetrachlorid	<1
Chloroform	4

	RBH305	RBH305	RBH305
Date	04/05/2023	11/05/2023	13/11/2023
Trichloroethene	3	<1	<1
SUM - 1,2 Dichloroethene (cis and trans)	<1	<1	<1
Vinyl Chloride	<1	<1	<1
Carbon Tetrachloride	2	<1	<1
Chloroform	3	2	<1

	RBH503
Date	13/11/2023
Trichloroethene	<1
SUM - 1,2 Dichloroethene (cis and trans)	100
Vinyl Chloride	44
Carbon Tetrachloride	<1
Chloroform	<1

	RBH202	RBH202 (Duplicate)
Date	27/09/2022	27/09/2022
Trichloroethene	4	3
SUM - 1,2 Dichloroethene (cis and trans)	<1	<1
Vinyl Chloride	<1	<1
Carbon Tetrachloride	<1	<1
Chloroform	<1	<1

	RBH303	RBH303
Date	04/05/2023	10/05/2023
Trichloroethene	277	221
SUM - 1,2 Dichloroethene (cis and trans)	81	84
Vinyl Chloride	<1	<1
Carbon Tetrachloride	38	22
Chloroform	9	9

	RBH504
Date	13/11/2023
Trichloroethene	17
SUM - 1,2 Dichloroethene (cis and trans)	151
Vinyl Chloride	<1
Carbon Tetrachloride	14
Chloroform	13

	WS311
Date	13/11/2023
Trichloroethene	<1
SUM - 1,2 Dichloroethene (cis and trans)	<1
Vinyl Chloride	<1
Carbon Tetrachloride	<1
Chloroform	<1

	RBH306	RBH306
Date	04/05/2023	11/05/2023
Trichloroethene	<1	<1
SUM - 1,2 Dichloroethene (cis and trans)	<1	<1
Vinyl Chloride	<1	<1
Carbon Tetrachloride	<1	<1
Chloroform	1	<1

	RBH302	RBH302	RBH302
Date	04/05/2023	10/05/2023	13/11/2023
Trichloroethene	4	3	2
SUM - 1,2 Dichloroethene (cis and trans)	1	1	<1
Vinyl Chloride	<1	<1	<1
Carbon Tetrachloride	207	159	142
Chloroform	28	25	17

	RBH203	RBH203	RBH203	RBH203	RBH203	RBH203
Date	27/09/2022	04/10/2022	19/01/2023	04/05/2023	10/05/2023	13/11/2023
Trichloroethene	480	572	418	214	200	215
SUM - 1,2 Dichloroethene (cis and trans)	2	2	4	4	3	4
Vinyl Chloride	<1	<1	<1	<1	<1	<1
Carbon Tetrachloride	95	104	265	164	107	84
Chloroform	54	77	195	163	121	59

	LK BH03	LK BH03	LK BH03	LK BH03
Date	04/10/2022	19/01/2023	04/05/2023	10/05/2023
Trichloroethene	250	80	43	39
SUM - 1,2 Dichloroethene (cis and trans)	3	6	3	4
Vinyl Chloride	<1	<1	<1	<1
Carbon Tetrachloride	58	73	53	48
Chloroform	33	49	27	32

	RBH501
Date	13/11/2023
Trichloroethene	27
SUM - 1,2 Dichloroethene (cis and trans)	2
Vinyl Chloride	<1
Carbon Tetrachloride	17
Chloroform	40

REV.	DATE	DETAILS	DRN.	CHK.
03	DEC 23	RBH502 P2 ADDED	RM	LR
02	NOV 23	UPDATE FOLLOWING ADDITIONAL SI	RM	LR
01	JAN 23	FIRST ISSUE	RM	LR

DRAWING STATUS: INFORMATION

RIBA STAGE:

RoC CONSULTING
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T 0161 214 5390
W rocconsulting.com

DRAWN: RM	DATE: JUN 23	SCALES: 1:500
CHECKED: LR	DATE: JUN 23	THE ABOVE SCALES APPLY WHEN PLOTTED AT A1 SIZE –DO NOT SCALE–
APPRVD.: LR	DATE: JUN 23	EMAIL FOR DRAWINGS: info@rocconsulting.com

CLIENT: FAR EAST CONSORTIUM INTERNATIONAL LTD

PROJECT TITLE: PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE: VOC CONTAMINATION DISTRIBUTION IN GROUNDWATER

DRAWING No.: 4328-ROC-ZZ-XX-DR-ES-ES209A

REV.: 03

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- LK RBHX — ROC 2023 PHASE ADDITIONAL TCE BOREHOLES
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- CHESTER FORMATION
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- APPROX PLOT NT03 BOUNDARY
- APPROX PLOT NT04 BOUNDARY

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	RBH201	RBH201 (Duplicate)
Date	27/09/2022	27/09/2022
Benzene	<1	<1
Ali >C12-C16	<5	<5
Aro >C12-C16	<5	<5
TPH (Ali & Aro >C5-C35)	<10	<10

	RBH505 P1	RBH505 P2
Date	13/11/2023	13/11/2023
Benzene	<1	137
Ali >C12-C16	<5	<5
Aro >C12-C16	<5	<5
TPH (Ali & Aro >C5-C35)	<10	128

	RBH301	RBH301
Date	04/05/2023	10/05/2023
Benzene	12	13
Ali >C12-C16	<5	<5
Aro >C12-C16	<5	<5
TPH (Ali & Aro >C5-C35)	17	17

	LKBH01	LKBH01 Duplicate	LKBH01
Date	27/09/2022	27/09/2022	19/01/2023
Benzene	258	186	27
Ali >C12-C16	<5	<5	<5
Aro >C12-C16	7	6	5
TPH (Ali & Aro >C5-C35)	263	204	41

	RBH502 P1	RBH502 P2
Date	13/11/2023	20/11/2023
Benzene	<1	385
Ali >C12-C16	1080	559
Aro >C12-C16	340	130
TPH (Ali & Aro >C5-C35)	1640	1100

	RBH305	RBH305	RBH305
Date	04/05/2023	11/05/2023	13/11/2023
Benzene	<1	<1	<1
Ali >C12-C16	<5	<5	<5
Aro >C12-C16	<5	<5	<5
TPH (Ali & Aro >C5-C35)	<10	<10	<10

	RBH503
Date	13/11/2023
Benzene	21
Ali >C12-C16	<5
Aro >C12-C16	<5
TPH (Ali & Aro >C5-C35)	26

	RBH202	RBH202 (Duplicate)
Date	27/09/2022	27/09/2022
Benzene	<1	<1
Ali >C12-C16	<5	<5
Aro >C12-C16	<5	<5
TPH (Ali & Aro >C5-C35)	<10	<10

	RBH303	RBH303
Date	04/05/2023	10/05/2023
Benzene	2	2
Ali >C12-C16	<5	<5
Aro >C12-C16	<5	<5
TPH (Ali & Aro >C5-C35)	<10	<10

	RBH504
Date	13/11/2023
Benzene	<1
Ali >C12-C16	<5
Aro >C12-C16	17
TPH (Ali & Aro >C5-C35)	61

	WS311
Date	13/11/2023
Benzene	1
Ali >C12-C16	<5
Aro >C12-C16	60
TPH (Ali & Aro >C5-C35)	168

	RBH306	RBH306
Date	04/05/2023	11/05/2023
Benzene	<1	<1
Ali >C12-C16	<5	<5
Aro >C12-C16	19	7
TPH (Ali & Aro >C5-C35)	48	21

	RBH302	RBH302	RBH302
Date	04/05/2023	10/05/2023	13/11/2023
Benzene	<1	<1	<1
Ali >C12-C16	<5	<5	<5
Aro >C12-C16	<5	<5	<5
TPH (Ali & Aro >C5-C35)	<10	<10	<10

	RBH203	RBH203	RBH203	RBH203	RBH203	RBH203
Date	27/09/2022	04/10/2022	19/01/2023	04/05/2023	10/05/2023	13/11/2023
Benzene	<1	<1	<1	<1	<1	1
Ali >C12-C16	<5	<5	<5	<5	<5	<5
Aro >C12-C16	<5	<5	<5	<5	5	<5
TPH (Ali & Aro >C5-C35)	<10	18	<10	10	15	<10

	LKBH03	LKBH03	LKBH03	LKBH03
Date	04/10/2022	19/01/2023	04/05/2023	10/05/2023
Benzene	<1	<1	<1	<1
Ali >C12-C16	<5	<5	<5	<5
Aro >C12-C16	<5	<5	<5	<5
TPH (Ali & Aro >C5-C35)	13	<10	<10	<10

	RBH501
Date	13/11/2023
Benzene	<1
Ali >C12-C16	<5
Aro >C12-C16	<5
TPH (Ali & Aro >C5-C35)	<10

REV.	DATE	DETAILS	DRN.	CHK.
01	DEC 23	FIRST ISSUE	RM	AS

DRAWING STATUS: INFORMATION

RIBA STAGE:

RoC CONSULTING
Commercial Wharf
6 Commercial Street
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T 0161 214 5390
W rocconsulting.com

DRAWN	DATE	SCALES
RM	DEC 23	1:500
CHECKED: AS	DATE: DEC 23	THE ABOVE SCALES APPLY WHEN PLOTTED AT A1 SIZE --DO NOT SCALE--
APPRVD.: AS	DATE: DEC 23	EMAIL FOR DRAWINGS: info@rocconsulting.com

CLIENT: FAR EAST CONSORTIUM INTERNATIONAL LTD

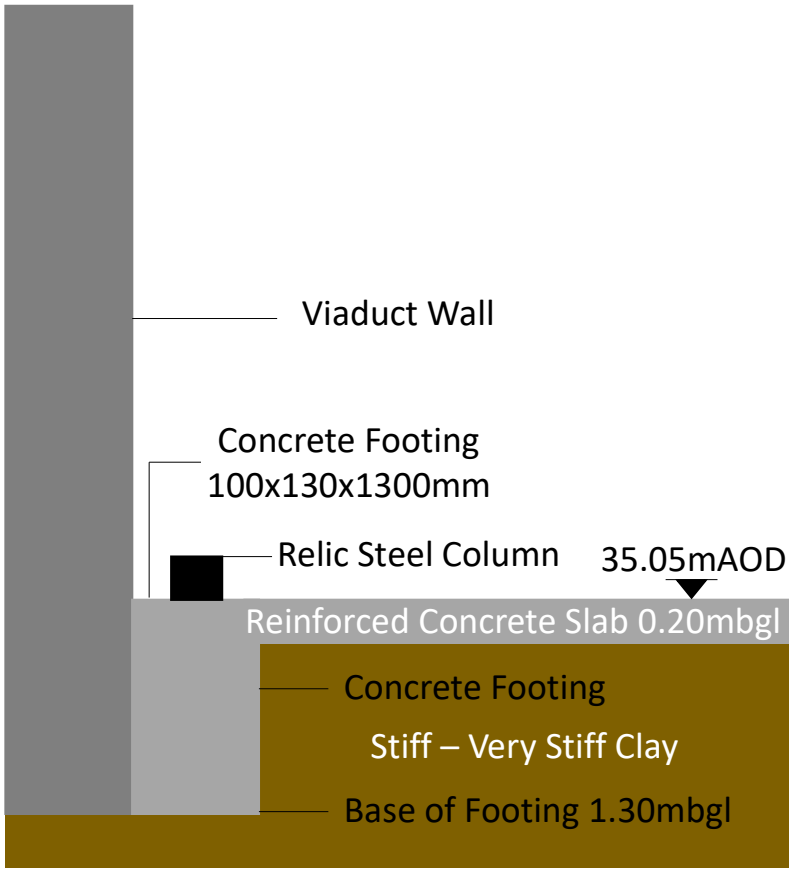
PROJECT TITLE: PLOTS NTO2, NTO3 & NTO4 NORTHERN GATEWAY

DRAWING TITLE: TPH CONTAMINATION DISTRIBUTION IN GROUNDWATER

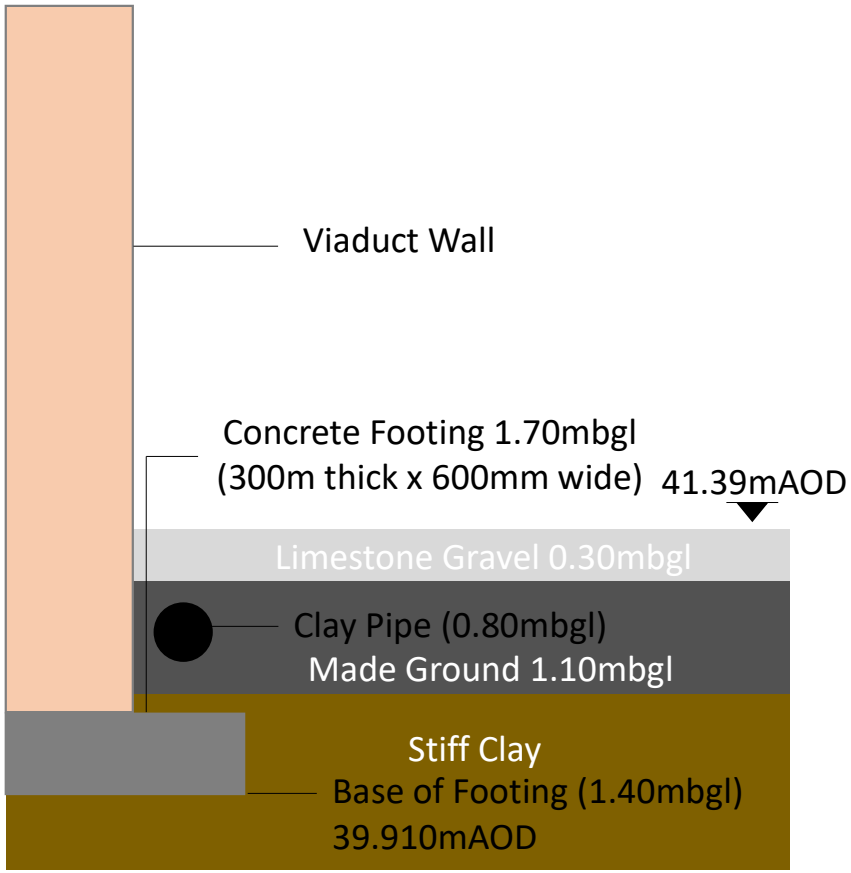
DRAWING No.: 4328-ROC-ZZ-XX-DR-ES-ES209B | REV.: 01

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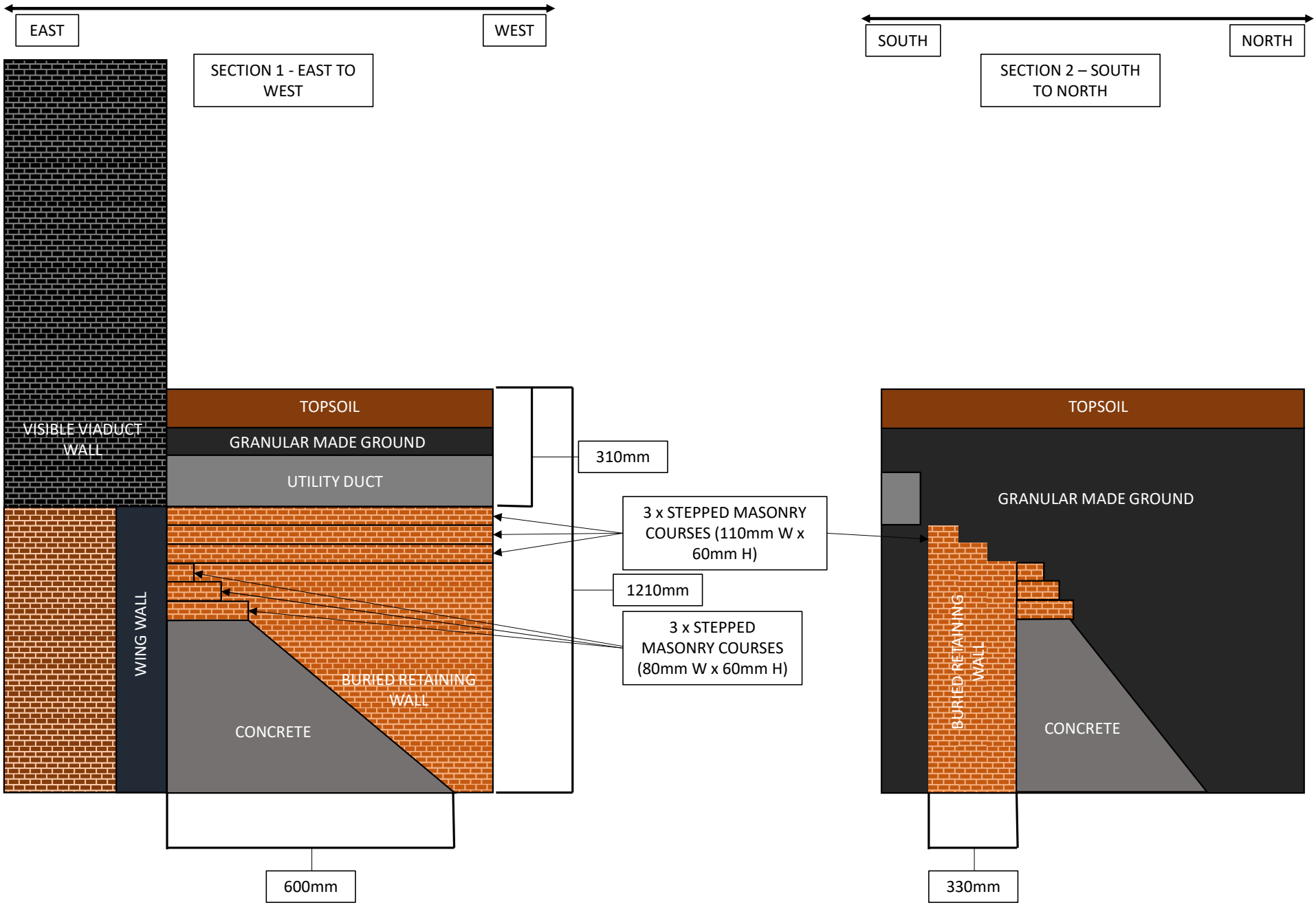


TP208 Foundation Exposure

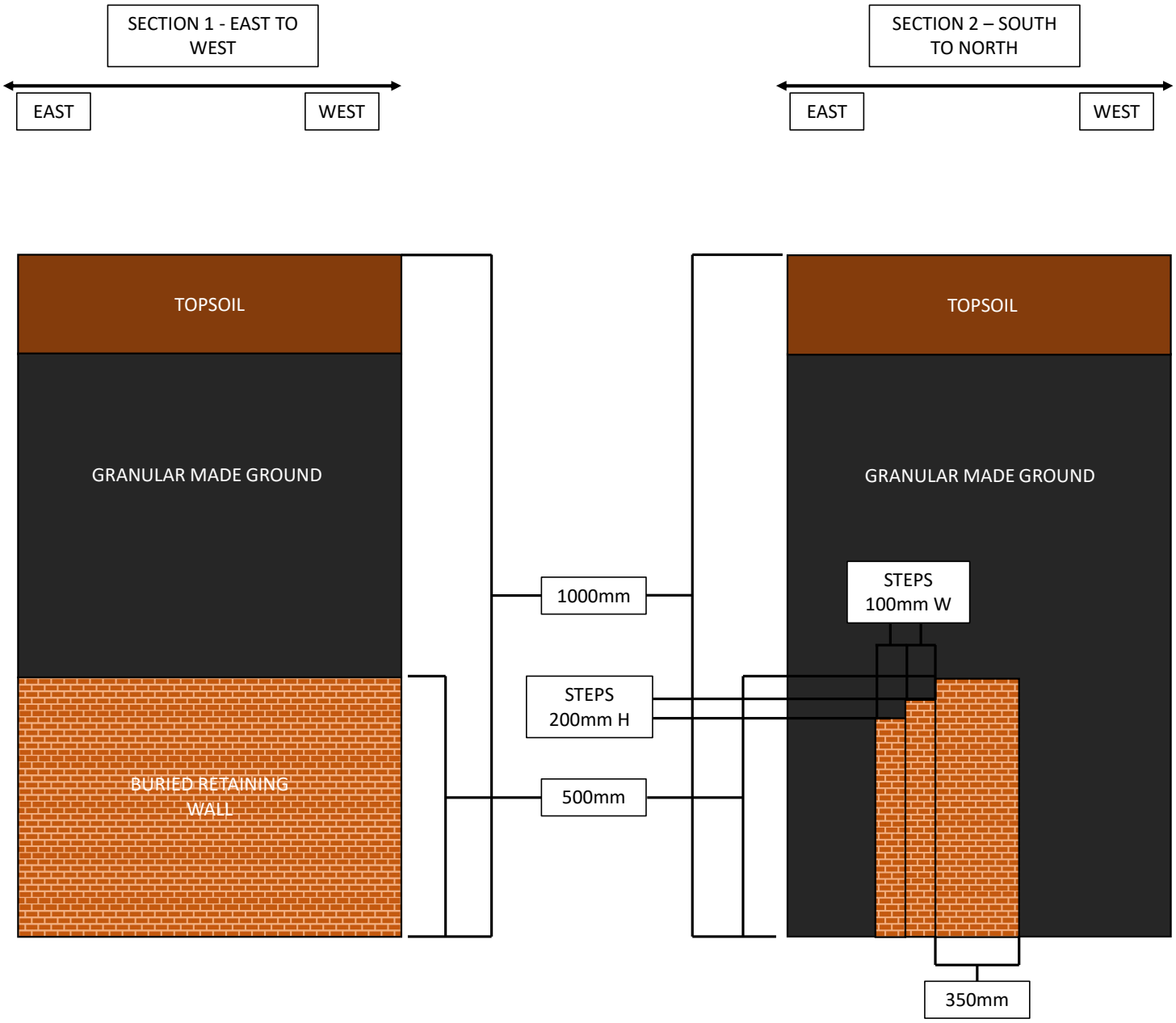


TP220 Foundation Exposure

JOB NO	4328	SKETCH NO	4328-ROC-ZZ-XX-SK-ES-ESK110	DRAWN BY : RM 02/09/2022
PROJECT TITLE	Plots NT02-NT04	SKETCH TITLE	Viaduct Foundation Exposure Sections	



JOB NO	4328	SKETCH NO	4328-ROC-ZZ-XX-SK-ES-ESK111	DRAWN BY RM
PROJECT TITLE	Plots NT02-NT04	SKETCH TITLE	NETWORK RAIL MOUND HDP201 SECTIONS	



JOB NO	4328	SKETCH NO	4328-ROC-ZZ-XX-SK-ES-ESK111	DRAWN BY RM
PROJECT TITLE	Plots NT02-NT04	SKETCH TITLE	NETWORK RAIL MOUND HDP202	

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX B – EXPLORATORY HOLE LOGSHEETS

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384587.72 N399440.01
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP201	TP	31.44m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES		0.30	31.14		Grey reinforced concrete slab (MADE GROUND)
								Clayey gravelly ashy SAND. Gravel is fine to coarse sub angular to angular of concrete, brick and clinker. High cobble content of whole and half bricks with occasional sandstone flags (MADE GROUND) *...at 0.30mbgl remnants of a brick wall in western face*
					1.00	30.44		Soft light brown mottled reddish brown and yellowish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse rounded of mudstone and sandstone. High cobble content of sandstone and mudstone cobbles (DEVENSIAN TILL)
					2.20	29.24		Reddish brown slightly gravelly medium SAND. Gravel is fine to coarse rounded of sandstone (CHESTER FORMATION)
					3.20	28.24		End of Borehole at 3.200m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
2.50	1.60	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384614.55 N399392.47
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP202	TP	33.60m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete slab (MADE GROUND)
					0.25	33.35		Cobblestone setts (MADE GROUND)
					0.40	33.20		*...at 0.25 to 1.50mbgl concrete structure in northern face of pit*
		0.50	ES					Black gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, clinker and slag. High whole and half brick cobble content. Containing metal pipe fragments. Hydrocarbon odour (MADE GROUND)
					1.50	32.10		End of Borehole at 1.500m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	1.60	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Trial pit was terminated at 1.50mbgl due to the strong hydrocarbon odour being released from the arisings within a confined area 4. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384634.97 N399457.35
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP203	TP	32.24m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES		0.05	32.19		Asphalt (MADE GROUND) Black sandy fine to coarse sub angular to angular GRAVEL of brick and concrete. High whole and half brick cobble content. Containing plastic bags, metal beams and posts, glass, fabric, timber. Strong hydrocarbon odour (MADE GROUND)
		1.20	ES		1.50	30.74		Brown slightly clayey gravelly SAND. Gravel is fine to coarse sub rounded to rounded of mudstone and sandstone. Low mudstone and sandstone cobble content. (DEVENSIAN TILL)
					2.40	29.84		Very soft light brown mottled orangish and reddish brown sandy gravelly CLAY. Gravel is fine to coarse sub rounded to rounded of mudstone and sandstone. Low sandstone and mudstone cobble content (DEVENSIAN TILL)
					2.90	29.34		Reddish brown slightly gravelly SAND. Gravel is fine to coarse rounded of sandstone and mudstone. Low sandstone and mudstone cobble content (CHESTER FORMATION)
					4.00	28.24		End of Borehole at 4.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
4.00	1.60	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384650.66 N399405.60
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP204	TP	34.61m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.60	ES		0.50	34.11		Grey sandy fine to coarse sub angular to angular GRAVEL of brick and concrete. High whole and half brick cobble content (MADE GROUND)
					0.90	33.71		Dark brown sandy gravelly CLAY. Gravel is fine to coarse of brick. High whole and half brick metal and rubber fragments (MADE GROUND)
								End of Borehole at 0.900m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	1.60	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Trial pit was terminated at 0.90mbgl due to encountering masonry floor obstruction 4. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384658.09 N399432.14
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP207	TP	33.30m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.05	33.25		Asphalt (MADE GROUND)
								Black slightly clayey gravelly SAND. Gravel is fine to medium sub angular to angular of brick and slate. (MADE GROUND)
					0.30	33.00		Cobblestone setts (MADE GROUND)
					0.42	32.88		Brown gravelly CLAY. Gravel is fine to medium sub angular to angular of brick and slate (MADE GROUND)
								...at 0.80mbgl blue small diameter alkathene water pipe
								...at 1.00mbgl 150mm diameter clay pipe
					1.50	31.80		End of Borehole at 1.500m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.00	1.60	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Trial pit was terminated at 1.50mbgl due to services strike 4. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 15/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384668.20 N399390.71
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP208	TP	35.12m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	34.92		Grey reinforced concrete slab (MADE GROUND) *...at 0 to 1.30mbgl large concrete footing in southern fact of trial pit* Stiff to very stiff orangish brown slightly gravelly CLAY. Gravel is fine to coarse sub angular to angular of sandstone and mudstone (DEVENISAN TILL)
					1.60	33.52		End of Borehole at 1.600m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	2.00	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings 4. A sketch of the foundation exposure had been completed and is available on sketch 4328-ROC-ZZ-XX-SK-ES-ESK110

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 19/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384705.86 N399483.40
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP213	TP	32.00m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Greyish brown very gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, limestone and concrete. High whole and half brick cobble content (MADE GROUND)
					0.60	31.40		Stiff brown mottled black CLAY (DEVENSIAN TILL)
		0.80	ES					
					1.10	30.90		Firm light brown mottled grey slightly gravelly sandy CLAY. Gravel is fine to coarse rounded of sandstone (DEVENSIAN TILL)
		1.20	D					
					2.10	29.90		End of Borehole at 2.100m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	1.00	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 18/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384756.33 N399467.65
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP214	TP	42.00m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40	ES					Vegetation over dark brown gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, slate, sandstone and concrete. High whole and half brick cobble content. Contains frequent fabric and plastic with occasional rubber, rebar, sheet metal food containers (MADE GROUND)
								...at 1.50mbgl section of loose masonry wall
					2.00	40.00		End of Borehole at 2.000m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	1.00	Unstable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Trial pit was terminated at 2.00mbgl due to instability in north and south faces 4. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 18/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384767.60 N399486.01
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP215	TP	39.49m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		1.00	ES		1.00	38.49		Grass and small thorny bushes over brown gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, concrete, clinker and slag. High whole and half brick cobble content. Occasional timber fragments (MADE GROUND)
								Soft to firm dark brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub angular to angular of brick (MADE GROUND)
								...at 1.20mbgl sandstone flag
					2.00	37.49		Stiff brown mottled blueish grey CLAY (DEVENSIAN TILL)
		2.50	D					
					3.00	36.49		End of Borehole at 3.000m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	1.00	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 18/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384767.92 N399445.81
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP216	TP	40.40m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05	40.35		Asphalt (MADE GROUND)
		0.20	ES		0.25	40.15		Dark brown gravelly medium SAND. Gravel is fine to coarse sub angular to angular of brick. Low whole and half brick cobble content (MADE GROUND)
					0.45	39.95		Light brown slightly gravelly SAND. Gravel is fine to coarse rounded of sandstone (MADE GROUND)
		0.60	ES					Dark brown gravelly clayey SAND. Gravel is fine to coarse of brick and slate. High whole and half brick cobble content. Contains glass and rebar. (MADE GROUND)
					0.80	39.60		Firm brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub angular to angular of brick. (MADE GROUND)
		1.20	ES		1.10	39.30		Dark brown slightly clayey gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, slate and coal. Low whole and half brick cobble content. Contains glass and occasional orange slag. (MADE GROUND)
					2.70	37.70		Stiff light orangish brown mottled light grey slightly gravelly CLAY. Gravel is fine to medium subrounded to rounded of mudstone and sandstone (DEVENSIAN TILL)
					3.40	37.00		End of Borehole at 3.400m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	1.00	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 18/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384779.95 N399466.05
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP217	TP	40.54m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					Grass over brown gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, slate, clinker and slag. High cobble content of whole and half bricks and stone setts (MADE GROUND)
					1.10	39.44		Stiff brown mottled blueish grey CLAY (DEVENSIAN TILL)
					3.00	37.54		End of Borehole at 3.000m

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Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	1.00	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 19/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384810.33 N399486.82
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP218	TP	41.22m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES		0.40	40.82		Light grey sandy fine to medium sub angular to angular GRAVEL of limestone (MADE GROUND)
								Dark brown gravelly SAND. Gravel is fine to coarse sub angular to angular of brick. High whole and half brick cobble content (MADE GROUND) *...at 0.40 to 1.70mbgl masonry wall running perpendicular to eastern pit face* *...at 0.40 to 2.80mbgl masonry wall in northern and southern faces of pit* *...at 0.60mbgl arch like structure in western face* *...at 1.20mbgl masonry floor*
					2.80	38.42		End of Borehole at 2.800m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	0.80	Unstable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Trial pit terminated at 2.80mbgl due to instability in eastern and western faces 4. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 19/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384824.89 N399490.08
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP219	TP	41.24m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					Grass over dark brown gravelly sandy CLAY. Gravel is fine to coarse sub angular to angular of brick, slate and ceramic. Low whole and half brick cobble content and chunks of masonry wall (MADE GROUND)
					1.10	40.14		Stiff light brown sandy gravelly CLAY. Gravel is fine to coarse rounded of mudstone and sandstone. Low mudstone and sandstone cobble content (DEVENSIAN TILL)
		2.00	D					
					2.80	38.44		End of Borehole at 2.800m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	1.00	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 18/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384839.99 N399482.57
Project No. : 4328	Crew Name:	Equipment: 13 Tonne Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP220	TP	41.49m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Light greyish brown sandy fine to coarse sub angular to angular GRAVEL of limestone (MADE GROUND)
					0.30	41.19		
								Dark brown gravelly SAND. Gravel is fine to coarse sub angular to angular of brick and concrete. Medium whole and half brick cobble content (MADE GROUND)
		0.70	ES					
								...at 0.80mbgl 150mm diameter clay pipe encountered
					1.00	40.49		Stiff brown CLAY (DEVENSIAN TILL)
								...at 1.50 to 1.70mbgl concrete footing encountered in southern face
					1.70	39.79		End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
3.60	1.00	Stable					

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings 4. A sketch of the foundation exposure had been completed and is available on sketch 4328-ROC-ZZ-XX-SK-ES-ESK110

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384593.59 N399421.44
Project No. : 4328	Crew Name: LD	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS201	WS	31.44m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.24	31.20		Grey concrete slab (MADE GROUND)
					0.30	31.14		Grey cobblestone blocks (MADE GROUND)
								End of Borehole at 0.300m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 0.30mbgl due to cobblestone road and potential drainage pipes in close vicinity to borehole. 4. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 21/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384608.06 N399407.49
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS202	WS	32.05m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey concrete slab (MADE GROUND)
					0.30	31.75		Black sandy fine to medium sub angular to angular GRAVEL of clinker (MADE GROUND)
					0.50	31.55		Soft slightly sandy gravelly CLAY. Gravel is fine to medium sub angular to angular of brick (MADE GROUND)
					1.00	31.05		Very soft brown mottled grey sandy CLAY. Solvent odour noted. (DEVENSIAN TILL)
		1.20	SPT	N=15 (3,3/3,4,4,4)				
		1.50	ES					
		2.00	SPT	N=15 (3,4/3,4,4,4)				
					2.50	29.55		Very dense slightly clayey red fine to medium SAND (CHESTER FORMATION)
		3.00	SPT	50 (10,13/50 for 275mm)				
					3.28	28.77		End of Borehole at 3.280m

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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 3.28mbgl due to SPT refusal in weathered sandstone 4. Upon completion borehole installed with a 50mm diameter standpipe with a response zone between 1.00 and 2.00mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 21/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384613.95 N399384.25
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS203	WS	33.59m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.25	33.34		Grey concrete slab (MADE GROUND)
		0.50	ES					Brown sandy fine to coarse sub angular to angular GRAVEL of brick (MADE GROUND)
					1.00	32.59		Soft light brown mottled orangish brown slightly sandy CLAY. (DEVENSIAN TILL)
		1.20	SPT	N=11 (2,3/2,3,3,3)				
								...at 1.50mbgl becoming firm
		2.00	SPT	N=6 (2,1/2,1,1,2)				
		2.50	D					*...at 2.40mbgl becoming stiff*
								...at 2.75 to 2.90mbgl clayey fine sand band
		3.00	SPT	50 (6,10/50 for 290mm)				*...at 3.00mbgl becoming very sandy*
					3.15	30.44		End of Borehole at 3.150m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 3.15mbgl due to SPT refusal in stiff clay 4. Upon completion borehole was installed with a 50mm standpipe with a response zone between 0.50 and 1.00mbgl

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384644.58 N399435.20
Project No. : 4328	Crew Name: LD	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS204	WS	32.91m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	32.81		Asphalt (MADE GROUND)
		0.40	ES					Black gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, slate and slag with occassional fragments of wire, metal, glass and plastic (MADE GROUND)
		1.20	SPT	N=18 (0,0/4,6,5,3)				
		1.40	ES		1.35	31.56		Stiff dark brown sandy slightly gravelly CLAY. Gravel is fine to medium sub angular to angular of brick. (MADE GROUND)
					1.65	31.26		Stiff light brown mottled white and orangish brown slightly sandy slightly gravelly CLAY. Gravel is fine rounded of sandstone and mudstone (DEVENSIAN TILL)
					1.90	31.01		
		2.00	SPT	N=6 (1,1/1,2,1,2)	2.00	30.91		Reddish brown fine to medium SAND (DEVENSIAN TILL)
					2.36	30.55		Stiff light brown mottled white and orangish brown slightly sandy slightly gravelly CLAY. Gravel is fine rounded of sandstone and mudstone (DEVENSIAN TILL)
								Medium dense reddish brown fine to medium SAND (CHESTER FORMATION)
		3.00	SPT	N=13 (2,2/3,4,3,3)				
		3.50	SPT	50 (25 for 145mm/50 for 265mm)				*...at 3.50mbgl becoming very dense*
					3.91	29.00		End of Borehole at 3.910m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 3.91mbgl due to SPT refusal in weathered sandstone 4. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 0.50 and 1.50mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384656.83 N399414.99
Project No. : 4328	Crew Name: LD	Drilling Equipment: Competiror 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS205	WS	34.41m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES					Grey gravelly SAND. Gravel is fine to coarse sub angular to angular of concrete and brick with occasional whole and half brick cobbles (MADE GROUND)
					0.60	33.81		End of Borehole at 0.600m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 0.60mbgl due to encountering an un-recorded metal pipe 4. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 21/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384740.67 N399482.77
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS208	WS	41.72m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40	ES		0.50	41.22		Soft to firm brown sandy slightly gravelly CLAY. Gravel is fine to medium sub angular to angular of brick. Frequent roots and rootlets with occasional fragments of ceramic (MADE GROUND)
		1.00	SPT	50 (15,10/50 for 250mm)	1.18	40.54		Very dense black gravelly SAND. Gravel is fine to coarse angular of asphalt (MADE GROUND)
								End of Borehole at 1.180m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 1.18mbgl due to SPT refusal on asphalt type material 4. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.50 and 1.00mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 21/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384764.54 N399469.56
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS209	WS	40.19m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40	ES		0.20	39.99		Light brown silty gravelly SAND. Gravel is fine to coarse angular of ceramic and brick. Frequent roots and rootlets (MADE GROUND - TOPSOIL)
		1.20	SPT	N=11 (2,3/2,3,3,3)				Dark brown gravelly SAND. Gravel is fine to coarse sub rounded to sub angular of clinker (MADE GROUND)
					1.40	38.79		Firm brown slightly gravelly CLAY. Gravel is fine to medium angular of brick and clinker (MADE GROUND)
					1.75	38.44		*...at 1.65 to 1.75mbgl becoming dark brown*
		2.00	SPT	N=15 (3,3/4,3,4,4)				Firm to stiff light brown mottled grey slightly gravelly CLAY. Gravel is fine rounded of sandstone and mudstone (DEVENSIAN TILL)
								...at 2.20mbgl becoming very stiff
		3.00	D					
		3.00	SPT	N=50 (7,7/10,12,13,15)				
					3.44	36.75		End of Borehole at 3.440m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 3.44mbgl due to SPT refusal in very stiff clay 4. Upon completion borehole was installed with a 50mm standpipe with a response zone between 0.50 and 1.50mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 22/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384768.39 N399479.63
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS210	WS	40.42m AoD	RM	1:25	Sheet 1 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					Grass over dark brown slightly clayey gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, ceramic, clinker and slag. Occasional whole and half bricks (MADE GROUND)
		1.30	ES		1.20	39.22		Brown slightly sandy clayey fine to coarse sub rounded to angular GRAVEL of clinker and slag. Frequent roots and rootlets (MADE GROUND)
					1.40	39.02		Soft brown slightly sandy gravelly CLAY. Gravel is fine to medium sub angular to angular of brick (MADE GROUND)
					2.00	38.42		Firm brown sandy gravelly CLAY. Gravel is fine to coarse rounded of mudstone and sandstone (DEVENSIAN TILL)
					2.50	37.92		Brown fine to medium SAND (DEVENSIAN TILL)
					2.90	37.52		Firm reddish brown CLAY (DEVENSIAN TILL)
					3.10	37.32		Stiff reddish brown slightly clayey SILT (DEVENSIAN TILL)
					3.50	36.92		Stiff reddish brown silty CLAY (DEVENSIAN TILL)
					4.40	36.02		Stiff reddish brown slightly sandy clayey SILT (DEVENSIAN TILL)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 22/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384768.39 N399479.63
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS210	WS	40.42m AoD	RM	1:25	Sheet 2 of 2

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					5.45	34.97		Stiff reddish brown slightly sandy clayey SILT (DEVENSIAN TILL)
								End of Borehole at 5.450m

6
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9
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Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 22/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384789.54 N399483.08
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS211	WS	40.96m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.30	ES					Grass over dark brown gravelly SAND. Gravel is fine to coarse sub angular to angular of brick and ceramic with occasional whole and half brick cobbles and timber fragments (MADE GROUND)
					1.50	39.46		End of Borehole at 1.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 1.5mbgl due to an unknown obstruction within made ground deposits 4. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.50 and 1.00mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 21/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384797.99 N399463.60
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Compeititor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS212	WS	41.35m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	41.15		Light grey sandy fine to coarse sub angular to angular GRAVEL of limestone (MADE GROUND)
					0.50	40.85		Reddish brown sandy fine to coarse sub angular to angular GRAVEL of brick. (MADE GROUND - RELIC BRICK WALL)
								End of Borehole at 0.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole terminated at 0.50mbgl due to encountering a relic brick wall within the handpit 4. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 22/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384817.95 N399508.90
Project No. : 4328	Crew Name: LD, TH	Drilling Equipment: Competitor 150

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS213	WS	37.29m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					Brown gravelly SAND. Gravel is fine to coarse rounded to sub angular of brick, mudstone and sandstone (MADE GROUND)
					1.00	36.29		
		1.20	SPT	N=17 (3,3/3,4,5,5)				Stiff brown slightly gravelly CLAY. Gravel is fine to medium sub rounded to rounded of sandstone and mudstone (DEVENSIAN TILL)
								...at 1.50mbgl becoming very stiff reddish brown
		2.00	SPT	N=50 (6,10/50 for 245mm)				
					2.40	34.89		End of Borehole at 2.400m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation

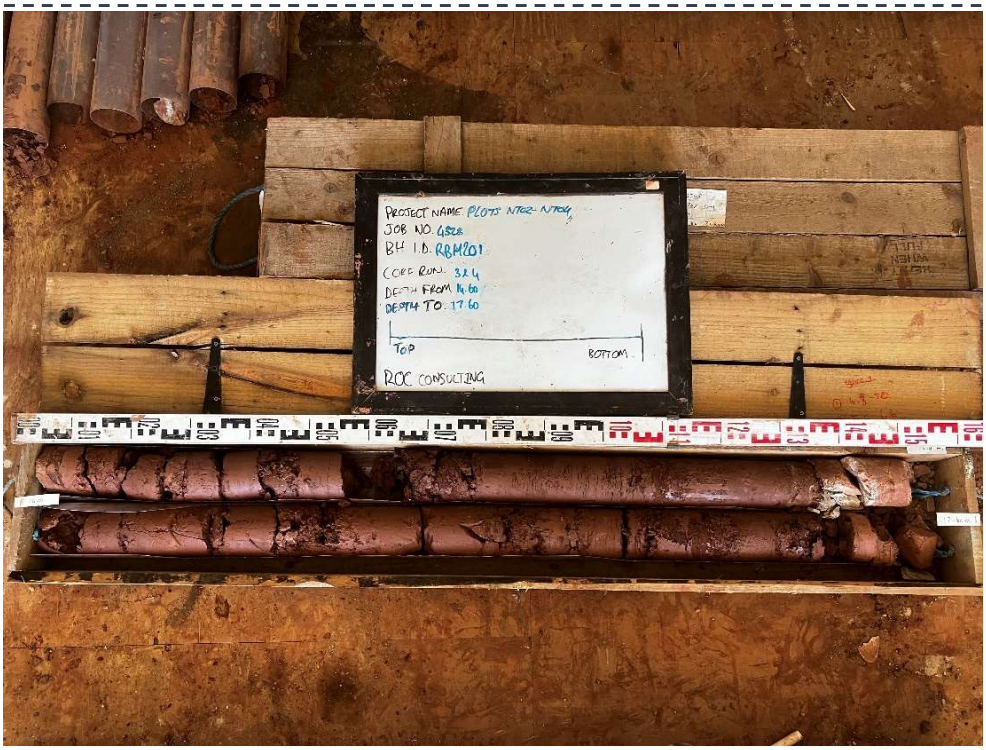
Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 2.40mbgl due to SPT refusal in very stiff clay 4. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.50 and 1.00mbgl.

COMPLEX CHALLENGES...
MADE SIMPLE

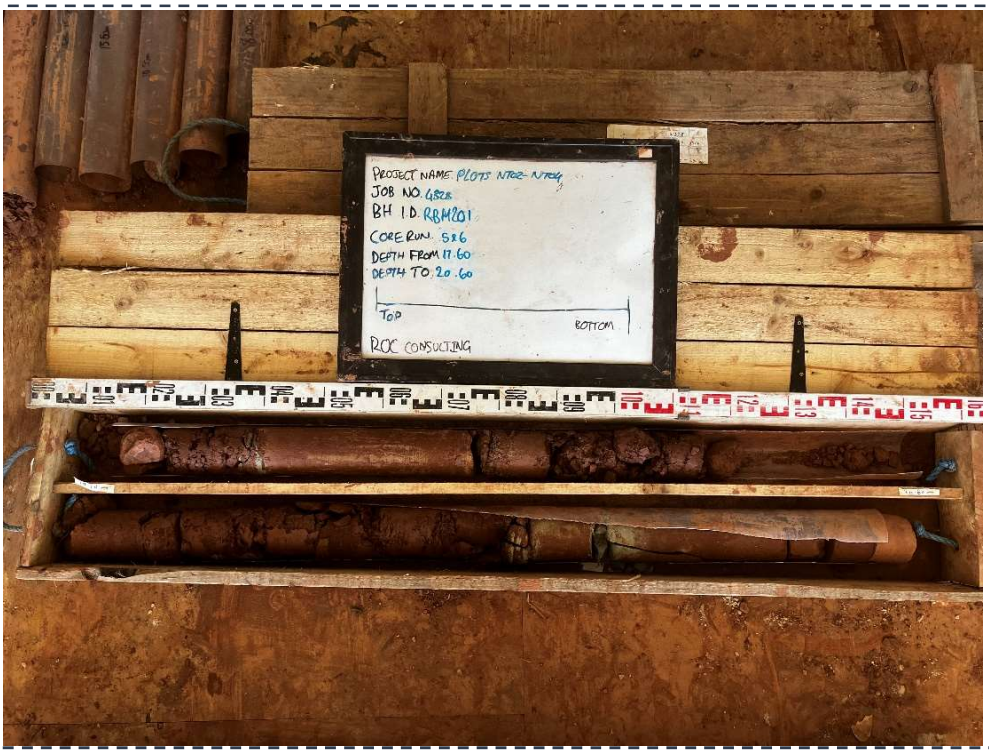


RBH201 – Core Run 1 & 2 11.80 to 14.60mbgl



RBH201 – Core Run 3 & 4 14.60 to 17.60mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

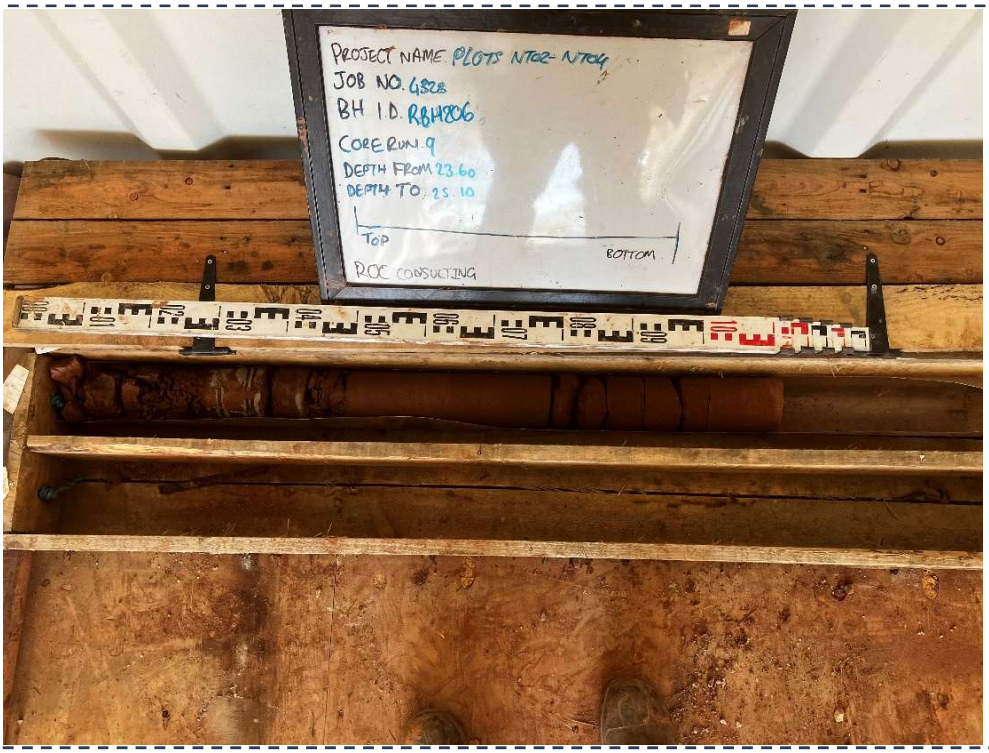


RBH201 – Core Run 5 & 6 17.60 to 20.60mbgl



RBH201 – Core Run 7 & 8 20.60 to 23.60mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

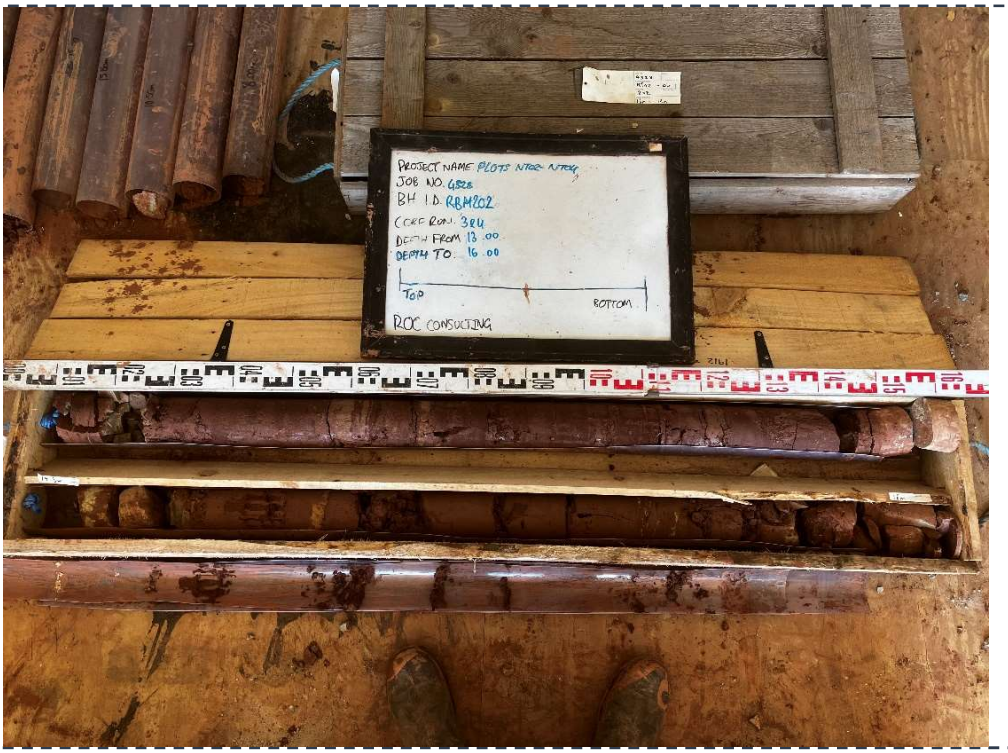


RBH201 – Core Run 9 23.60 to 25.10mbgl

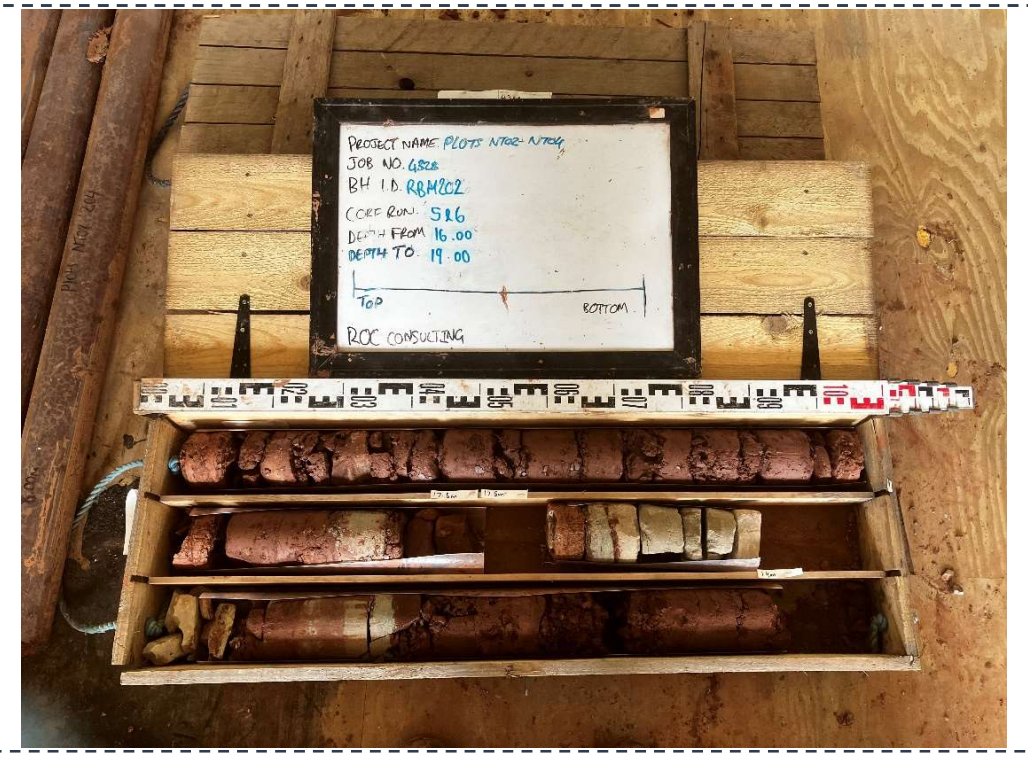


RBH202 – Core Runs 1 & 2 9.90 to 13.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH202 – Core Run 3 & 4 13.00 to 16.00mbgl

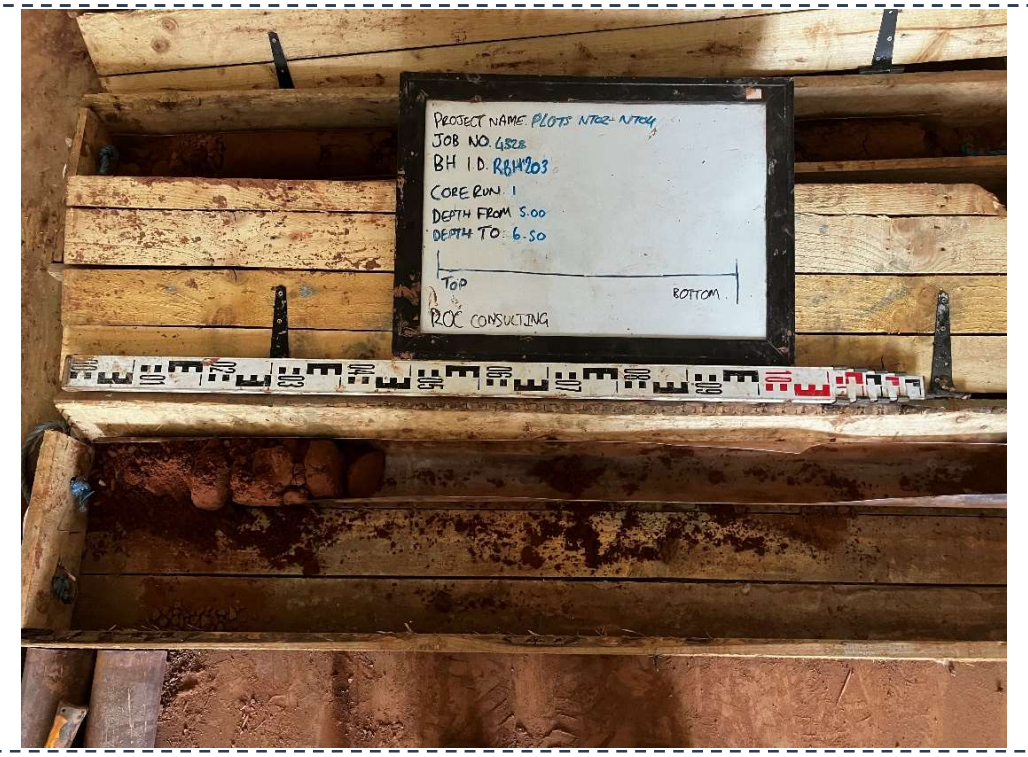


RBH202 – Core Runs 5 & 6 16.00 to 19.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

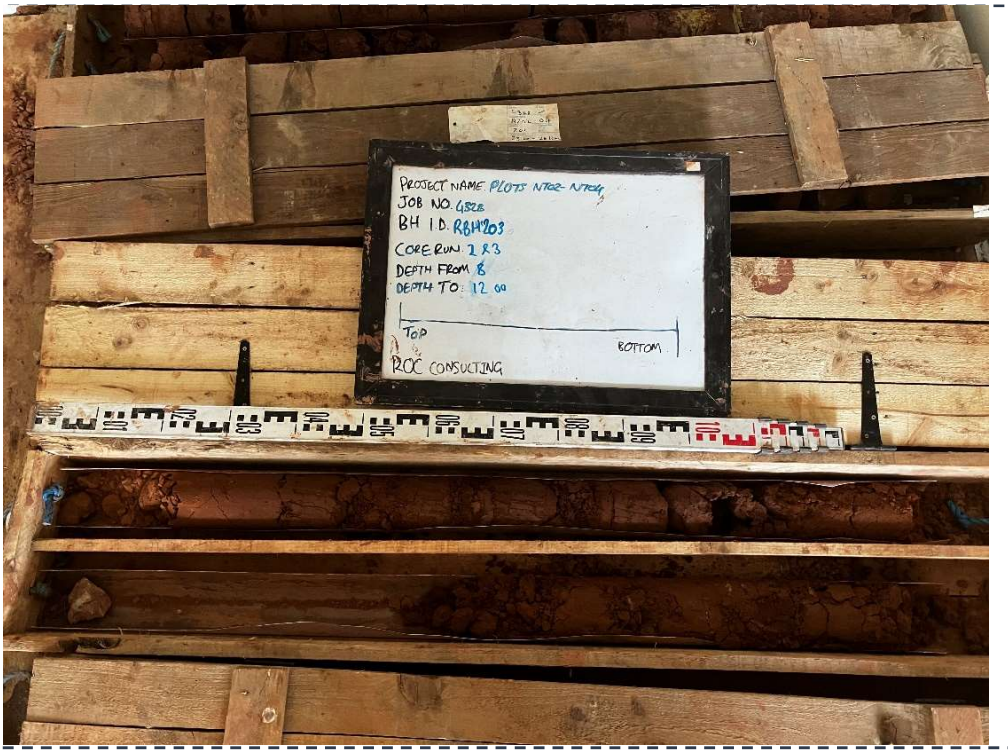


RBH202 – Core Run 7 & 8 19.00 to 22.00mbgl

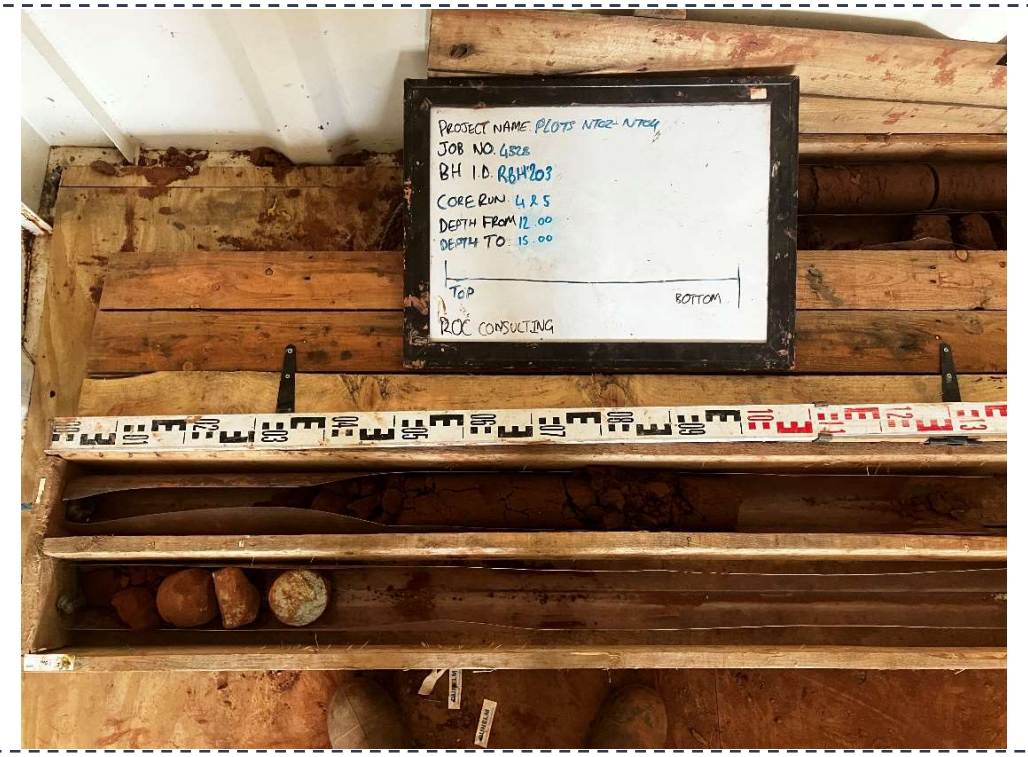


RBH203 – Core Run 1 5.00 to 6.50mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

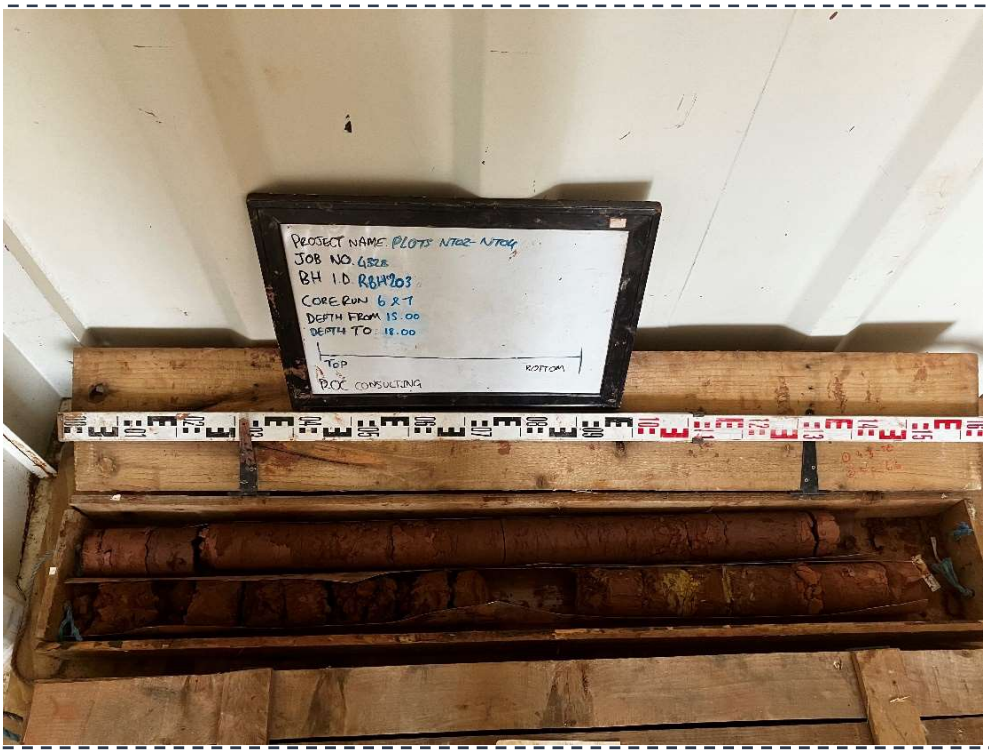


RBH203 – Core Run 2 & 3 8.00 to 12.00mbgl



RBH203 – Core Run 4 & 5 12.00 to 15.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

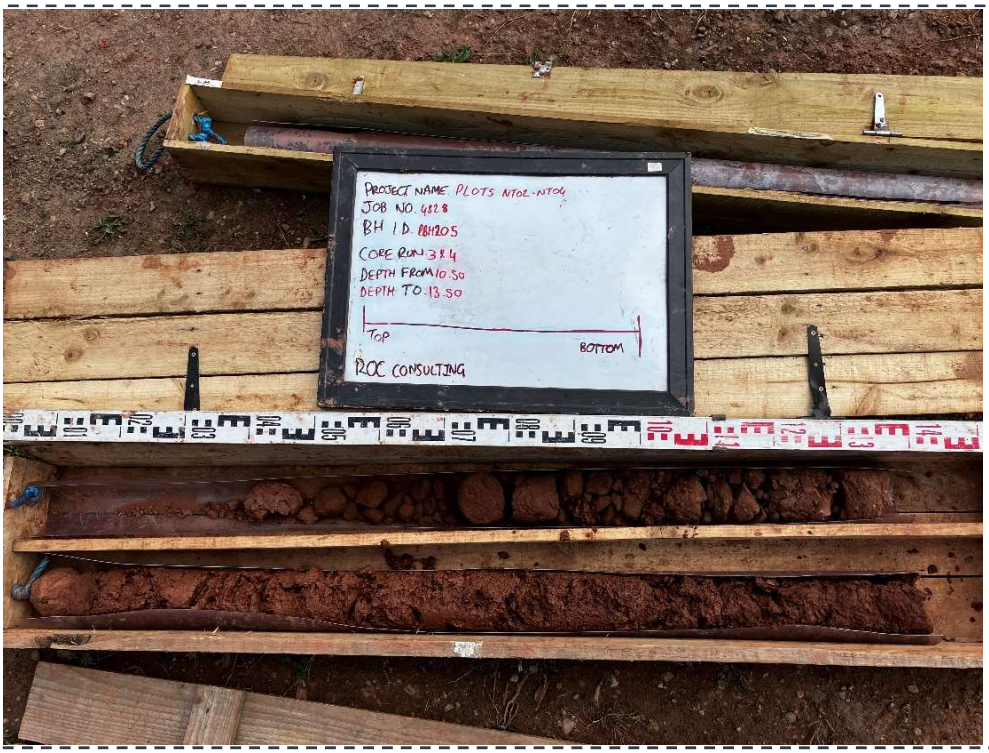


RBH203 – Core Run 6 & 7 15.00 to 18.00mbgl

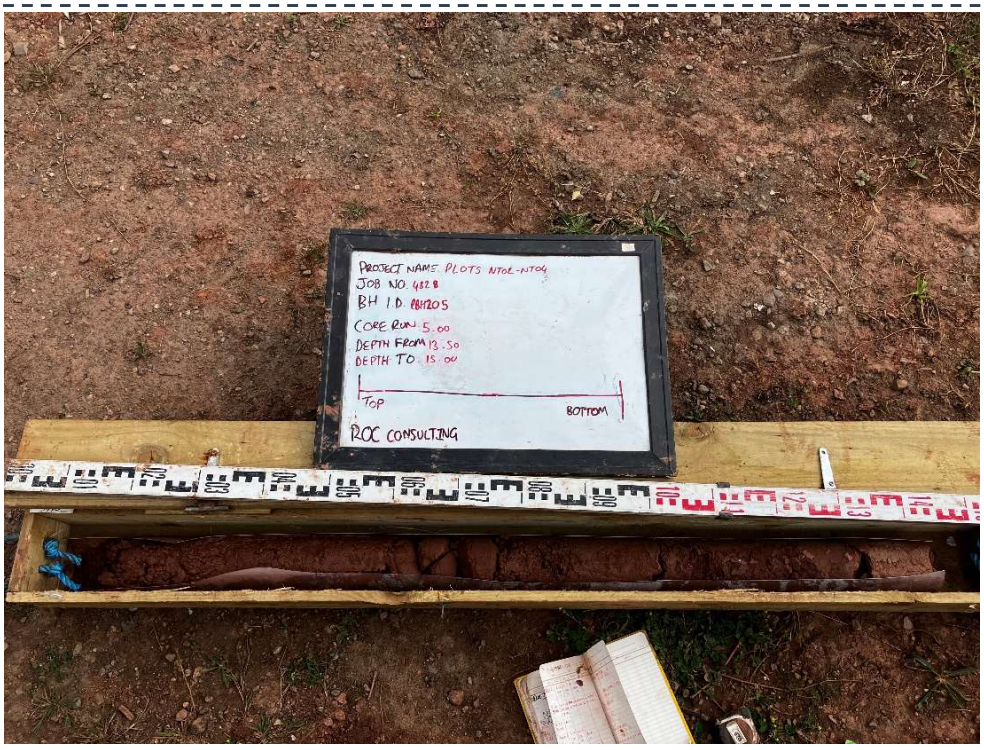


RBH205 – Core Run 1 & 2 7.50 to 10.50mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH205 – Core Run 3 & 4 10.50 to 13.50mbgl



RBH205 – Core Run 5 13.50 to 15.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH205 – Core Run 6 15.00 to 16.50mbgl



RBH205 – Core Run 7 16.50 to 18.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

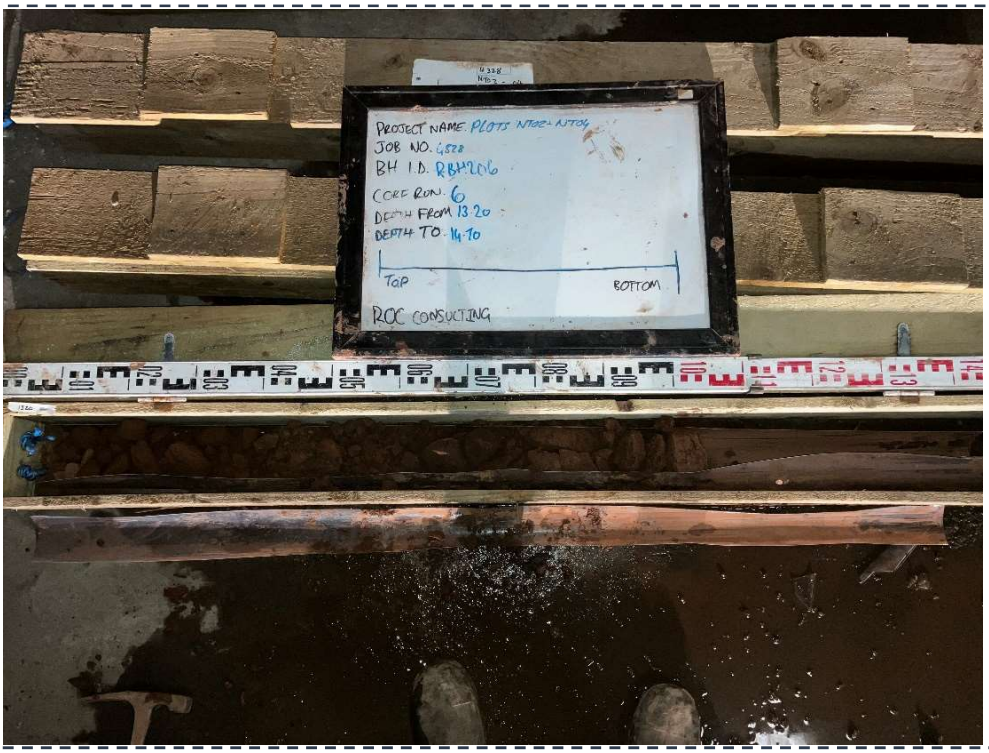


RBH206 – Core Run 1 & 2 5.80 to 8.70 mbgl

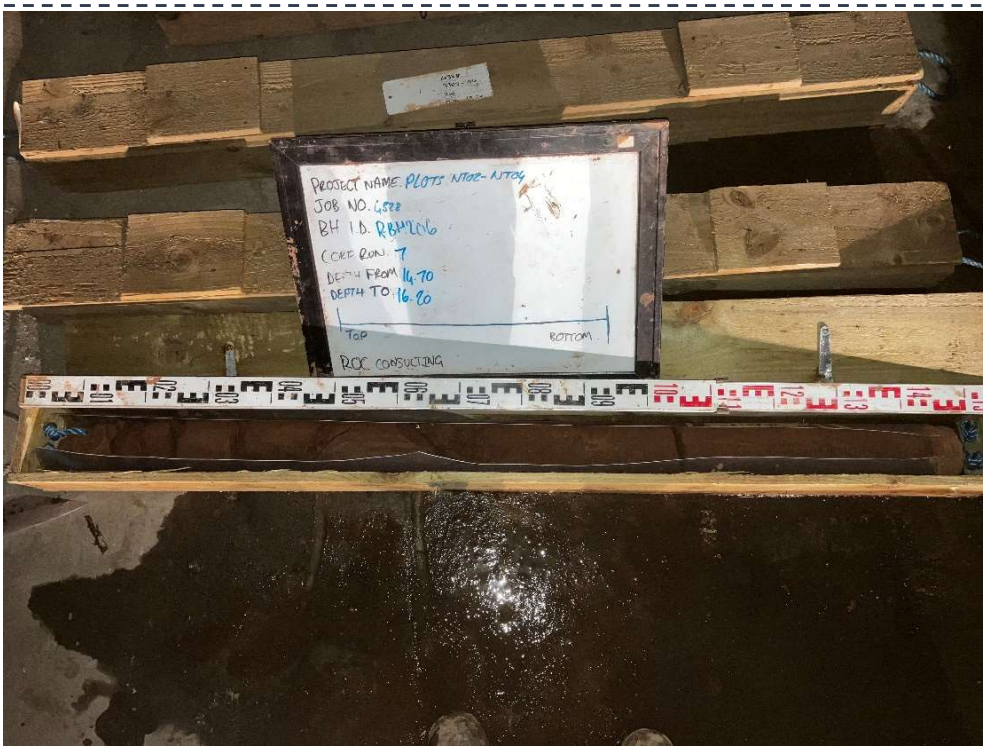


RBH206 – Core Run 3, 4 & 5 8.70 to 13.70mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

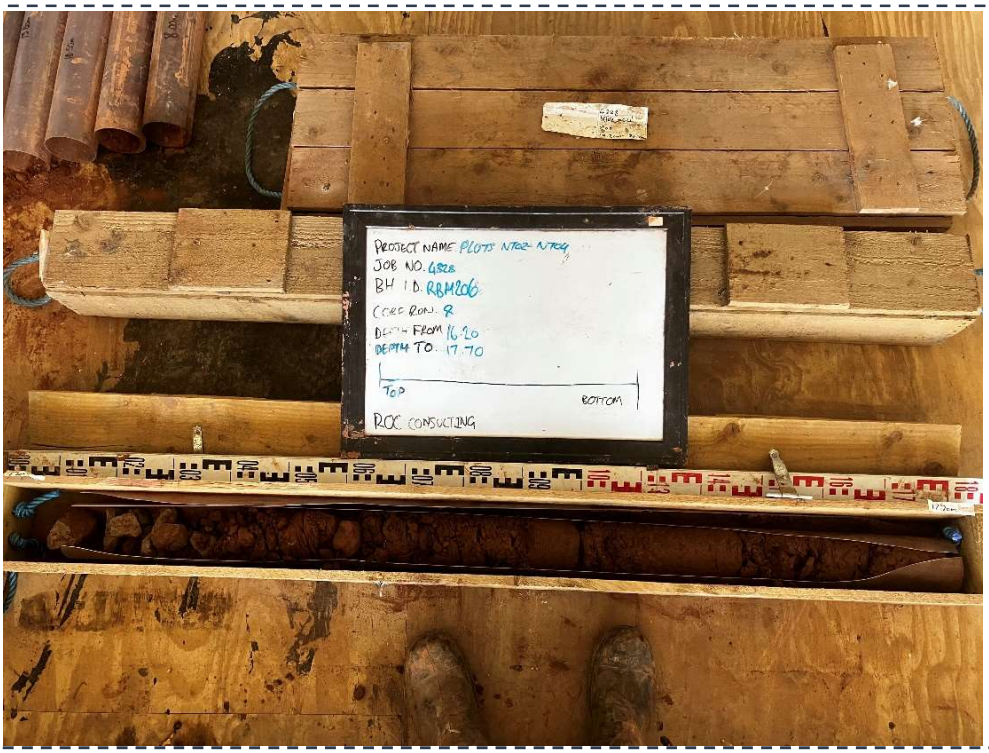


RBH206 – Core Run 6 13.20 to 14.70mbgl



RBH206 – Core Run 7 14.70 to 16.20mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

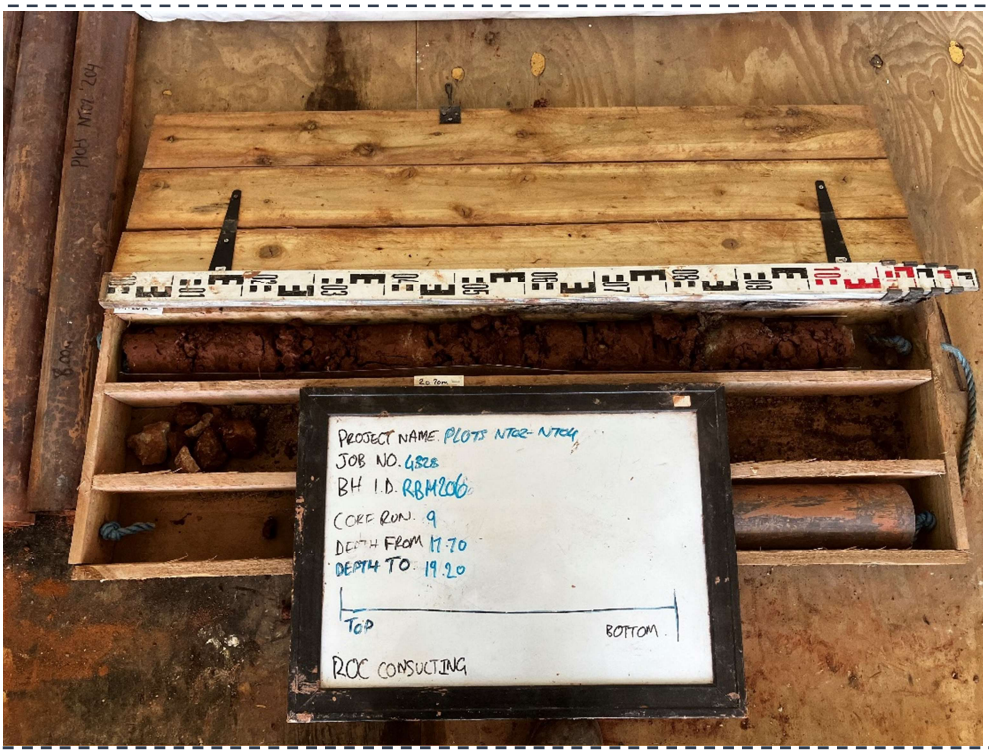


RBH206 – Core Run 8 16.20 to 17.70mbgl

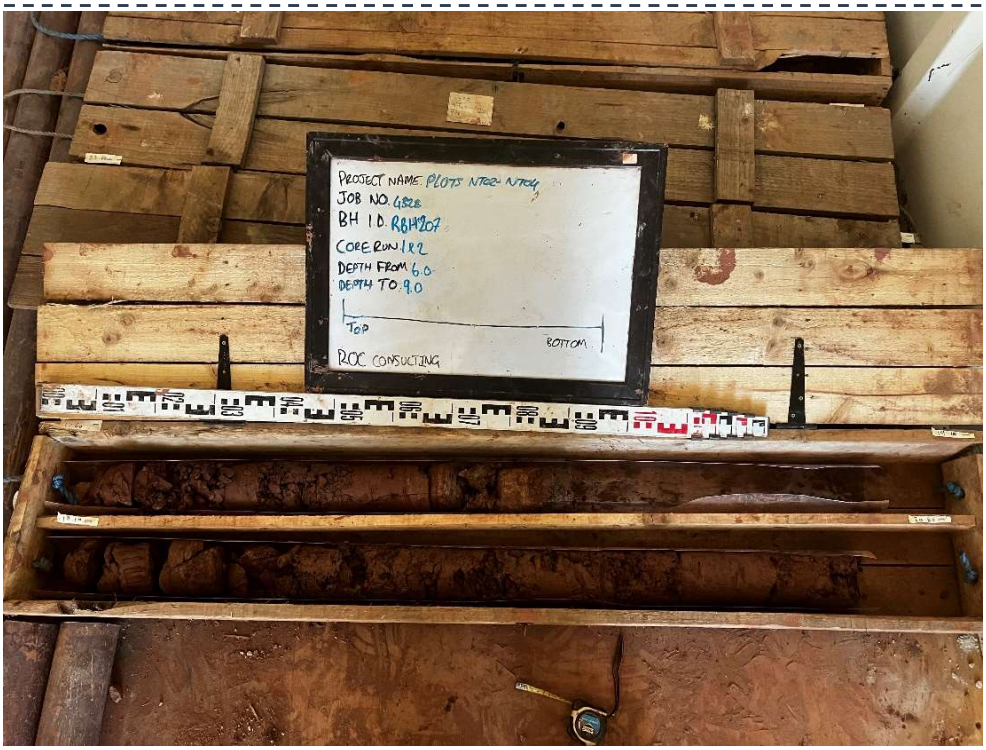


RBH206 – Core Run 9 17.70 to 19.20mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

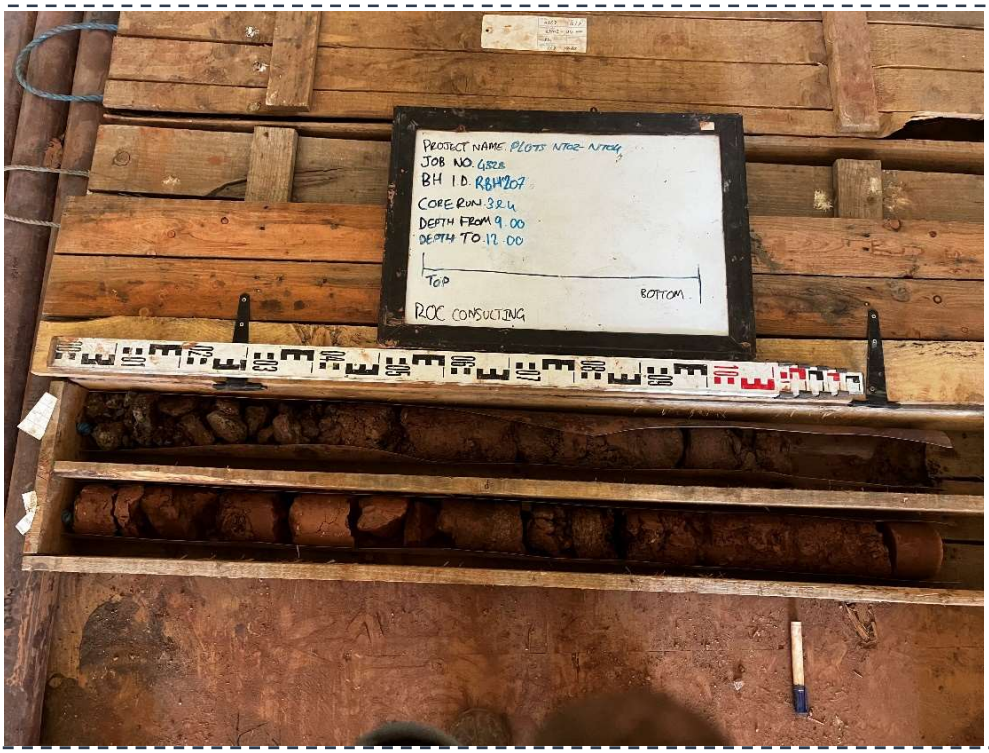


RBH206 – Core Run 10 19.20 to 20.70mbgl

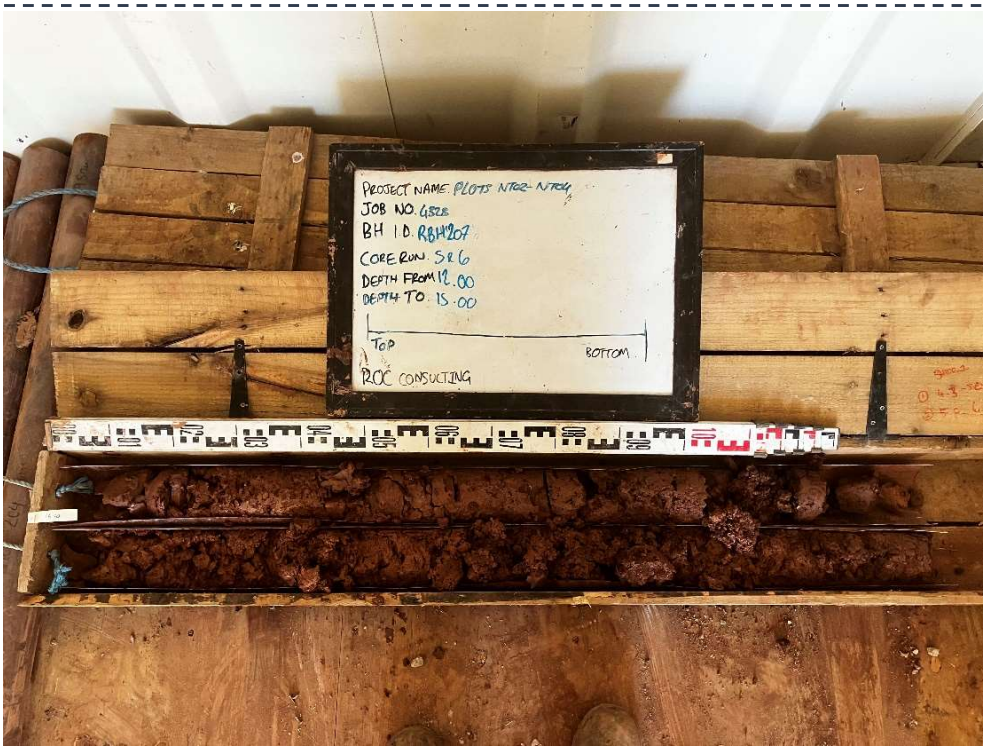


RBH207 – Core Run 1 & 2 6.00 to 9.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

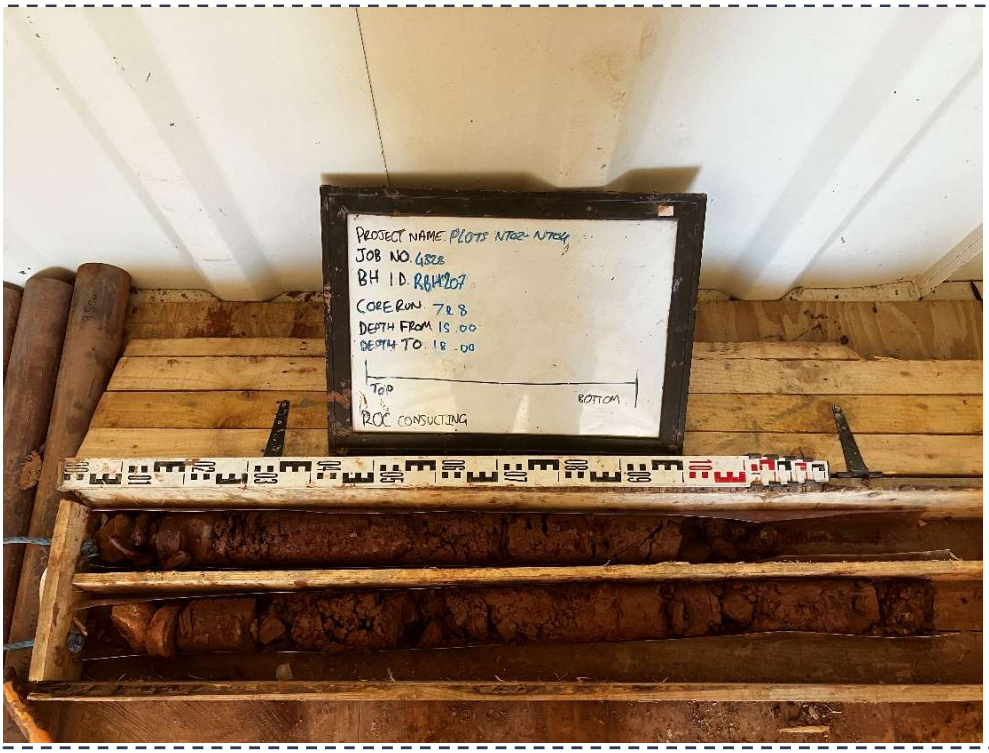


RBH207 – Core Run 3 & 4 9.00 to 12.00mbgl



RBH207 – Core Run 5 & 6 12.00 to 15.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH207 – Core Run 7 & 8 15.00 to 18.00mbgl



RBH208 – Core Run 1 & 2 12.00 to 15.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH208 – Core Run 3 & 4 15.00 to 18.00mbgl



RBH208 – Core Run 5 & 6 18.00 to 21.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH208 – Core Run 7 & 8 21.00 to 24.00mbgl



RBH209 – Core Run 1 12.00 to 13.50mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH209 – Core Run 2 13.50 to 15.00mbgl



RBH209 – Core Run 3 15.00 to 16.50mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

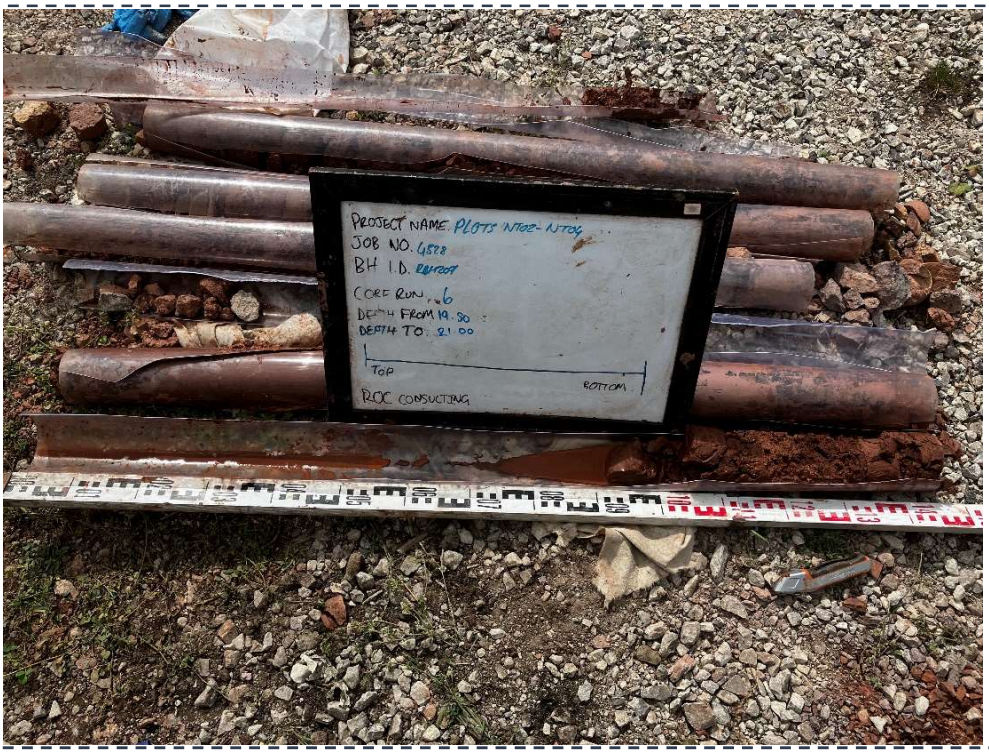


RBH209 – Core Run 4 16.50 to 18.00mbgl



RBH209 – Core Run 5 18.00 to 19.50mbgl

COMPLEX CHALLENGES...
MADE SIMPLE

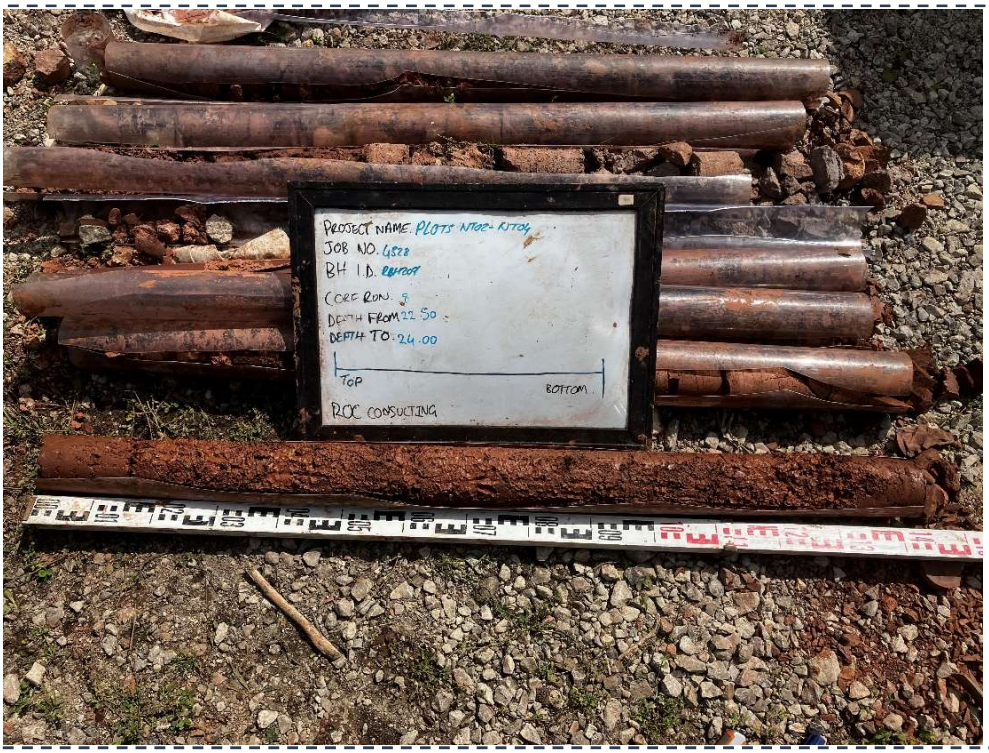


RBH209 – Core Run 6 19.50 to 21.00mbgl



RBH209 – Core Run 7 21.00 to 22.50mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH209 – Core Run 8 22.50 to 24.00mbgl



RBH210 – Core Run 1 & 2 9.00 to 12.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH210 – Core Run 3 & 4 12.00 to 15.00mbgl



RBH210 – Core Run 5 & 6 15.00 to 18.00mbgl

COMPLEX CHALLENGES...
MADE SIMPLE



RBH210 – Core Run 7 & 8 18.00 to 21.00mbgl

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 11/07/2022 - 12/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384597.08 N399455.18
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH201	RO+RC	31.40m AoD	RM	1:25	Sheet 1 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.15	31.25		Dark brown wood chippings (MADE GROUND)
											Grey Concrete (MADE GROUND)
								0.50	30.90		Dark greyish brown clayey gravelly medium to coarse ashy SAND. Gravel is fine to coarse subangular to angular of brick and sandstone (MADE GROUND)
								0.90	30.50		Light brown slightly silty sandy CLAY (DEVENSIAN TILL)
								2.00	29.40		Reddish brown SAND (CHESTER FORMATION)
								3.50	27.90		Reddish brown SANDSTONE (CHESTER FORMATION)

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
11.80 25.10	140 85	13.20	140					0.00	25.10								

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 11/07/2022 - 12/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384597.08 N399455.18
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH201	RO+RC	31.40m AoD	RM	1:25	Sheet 2 of 6

Well	Water	Depth (m)	Type /FI	Coring			Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
				TCR	SCR	RQD					
											Reddish brown SANDSTONE (CHESTER FORMATION)

6
7
8
9
10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
11.80 25.10	140 85	13.20	140					0.00	25.10								

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 11/07/2022 - 12/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384597.08 N399455.18
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH201	RO+RC	31.40m AoD	RM	1:25	Sheet 3 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown SANDSTONE (CHESTER FORMATION)
							85mm	11.80	19.60		
		11.80 - 13.20		102	0	0					Reddish brown MUDSTONE recovered as CLAY (MANCHESTER MARLS FORMATION)
							85mm	13.23	18.17		Extremely weak reddish brown MUDSTONE joints horizontal close to medium spaced completely weathered to clay in places (MANCHESTER MARLS FORMATION)
								13.59	17.81		Extremely weak grey SILTSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
		13.20 - 14.60		101	87	76		13.77	17.63		Extremely weak reddish brown MUDSTONE completely weathered to clay in places (MANCHESTER MARLS FORMATION)
								14.17	17.23		Very weak grey SILTSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
								14.22	17.18		Extremely weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm				*...at 14.42 to 14.62mbgl non intact*

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
11.80 25.10	140 85	13.20	140					0.00	25.10								

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 11/07/2022 - 12/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384597.08 N399455.18
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH201	RO+RC	31.40m AoD	RM	1:25	Sheet 4 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		14.60 - 16.10		95	78	56	85mm				Extremely weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION) *...at 15.30 to 15.35mbgl gravelly clay infill*
		16.10 - 17.60		100	95	77	85mm				*...at 16.02 to 16.10mbgl non intact* *...at 16.02 to 16.20mbgl band of weak grey siltstone* *...at 16.60 to 16.65mbgl gravelly clay infill*
		17.60 - 19.10		69	44	34	85mm	17.88 18.19	13.52 13.21		*...at 17.64 to 17.69mbgl non intact* *...at 17.74 to 17.88mbgl becoming destructured to clay* Weak grey SILTSTONE (MANCHESTER MARLS FORMATION) Weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION) *...at 18.29 to 18.48mbgl destructured to clay*
		19.10 - 20.60		98	98	69	85mm	19.85 19.90	11.55 11.50		*...at 19.40 to 19.45mbgl becoming destructured to clay* Weak interbedded MUDSTONE and

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
11.80 25.10	140 85	13.20	140					0.00	25.10								

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 11/07/2022 - 12/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384597.08 N399455.18
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH201	RO+RC	31.40m AoD	RM	1:25	Sheet 5 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								20.08	11.32		Weak interbedded MUDSTONE and SILTSTONE thickly laminated (MANCHESTER MARLS FORMATION)
											Weak grey SILTSTONE (MANCHESTER MARLS FORMATION)
							85mm				Weak reddish brown fine grained SANDSTONE joints horizontal medium to closely spaced (MANCHESTER MARLS FORMATION)
		20.60 - 22.10		100	100	97					
							85mm				
		22.10 - 23.60		69	56	48		22.67	8.73		Weak grey fine grained SANDSTONE (MANCHESTER MARLS FORMATION)
								22.85	8.55		*...at 22.68 to 22.75mbgl becoming weathered with clay infill*
											Weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
											...at 22.85 to 23.04mbgl destructured to clay
											...at 23.40 to 23.50mbgl non intact
							85mm				*...at 23.60 to 23.85mbgl destructured to clay*
								23.85	7.55		Weak interbedded MUDSTONE and SILTSTONE extremely close bedding (MANCHESTER MARLS FORMATION)
								24.08	7.32		Weak reddish brown fine grained SANDSTONE joints horizontal close to medium spaced (MANCHESTER MARLS FORMATION)
		23.60 - 25.10		76	56	49					

21 22 23 24 25

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
11.80 25.10	140 85	13.20	140					0.00	25.10								

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 11/07/2022 - 12/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384597.08 N399455.18
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH201	RO+RC	31.40m AoD	RM	1:25	Sheet 6 of 6

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								25.10	6.30		Weak reddish brown fine grained SANDSTONE joints horizontal close to medium spaced (MANCHESTER MARLS FORMATION)
											End of Borehole at 25.100m

26
27
28
29
30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
11.80 25.10	140 85	13.20	140					0.00	25.10								

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384638.05 N399446.26
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH202	RO+RC	32.76m AoD	RM	1:25	Sheet 1 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.10	32.66		Asphalt (MADE GROUND)
											Black gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, slate and slag. Occassional fragments of wood, metal, plastic and glass (MADE GROUND)
								1.35	31.41		Dark brown sandy slightly gravelly CLAY. Gravel is fine to medium sub angular to angular of brick (MADE GROUND)
								1.65	31.11		Light brown mottled orangish brown and white slightly sandy slightly gravelly CLAY. Gravel is fine rounded of sandstone and mudstone (DEVENSIAN TILL)
								2.00	30.76		Reddish brown fine to medium SAND (WEATHERED CHESTER FORMATION)
								3.20	29.56		Reddish brown SANDSTONE (CHESTER FORMATION)

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
7.00	140	12.00	140					0.00	25.00								
9.40	85																
9.40	140																
25.00	85																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384638.05 N399446.26
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH202	RO+RC	32.76m AoD	RM	1:25	Sheet 2 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown SANDSTONE (CHESTER FORMATION)
							85mm	9.90	22.86		Reddish brown MUDSTONE recovered as

6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
7.00	140	12.00	140					0.00	25.00								
9.40	85																
9.40	140																
25.00	85																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384638.05 N399446.26
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH202	RO+RC	32.76m AoD	RM	1:25	Sheet 3 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		9.90 - 11.50		102	26	20	85mm				Reddish brown MUDSTONE recovered as sightly sandy CLAY (MANCHESTER MARL FORMATION)
								11.14	21.62		Extremely weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
		11.50 - 13.00		99	36	32		11.61	21.15		Reddish brown MUDSTONE recovered as reddish brown clay (MANCHESTER MARLS FORMATION)
								12.54	20.22		Very weak grey and yellow SILTSTONE with occasional reddish brown staining. Bedding horizontal thickly laminated (MANCHESTER MARLS FORMATION)
								12.72	20.04		Very weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
		13.00 - 14.50		103	85	71	85mm	13.01	19.75		Weak reddish brown MUDSTONE with occasional grey spotting. Joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
								13.09	19.67		Grey SILTSTONE recovered as fine to medium sub angular GRAVEL (MANCHESTER MARLS FORMATION)
								13.16	19.60		Very weak reddish brown MUDSTONE with occasional grey patches joints horizontal close to medium spaced (MANCHESTER MARLS FORMATION)
								14.45	18.31		Weak grey and yellow thickly laminated SILTSTONE with reddish brown patches (MANCHESTER MARLS FORMATION)
								14.60	18.16		Weak grey and yellow thickly laminated SILTSTONE (MANCHESTER MARLS FORMATION)
								14.74	18.02		
								14.96	17.80		
								14.99	17.77		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
7.00	140	12.00	140					0.00	25.00								
9.40	85																
9.40	140																
25.00	85																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384638.05 N399446.26
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH202	RO+RC	32.76m AoD	RM	1:25	Sheet 4 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		14.50 - 16.00		96	85	57		15.71	17.05		Weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
											Weak light brown and yellow SILSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
											Very weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm	16.02	16.74		Reddish brown MUDSTONE recovered as fine to coarse sub angular gravel (MANCHESTER MARLS FORMATION)
		16.00 - 17.50		93	70	10					Very weak reddish brown MUDSTONE joints horizontal very close to closely spaced (MANCHESTER MARLS FORMATION)
											...at 16.26 to 16.29mbgl band of weak grey siltstone
								17.21	15.55		Weak light grey SILTSTONE (MANCHESTER MARLS
								17.28	15.48		MUDSTONE recovered as reddish brown fine to coarse sub angular to angular gravel (MANCHESTER MARLS FORMATION)
							85mm	17.50	15.26		Very weak light grey fine to medium grained SANDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
								17.92	14.84		
								17.98	14.78		*...at 17.60mbgl reddish brown stained crack*
								18.13	14.63		Very weak reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
		17.50 - 19.00		98	58	43					Weak grey and yellow thickly laminated SILTSTONE (MANCHESTER MARLS FORMATION)
											Weak reddish brown MUDSTONE joints horizontal very closely to closely spaced (MANCHESTER MARLS FORMATION)
							85mm				
											...at 19.10 to 19.13mbgl 60 degree fracture
		19.00 - 20.50		91	81	56		19.45	13.31		Weak light grey SILTSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
								19.59	13.17		Weak reddish brown and grey fine grained SANDSTONE joints horizontal close to medium spaced (MANCHESTER MARLS

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
7.00	140	12.00	140					0.00	25.00								
9.40	85																
9.40	140																
25.00	85																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/07/2022
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384638.05 N399446.26
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH202	RO+RC	32.76m AoD	RM	1:25	Sheet 5 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
							85mm				Weak reddish brown and grey fine grained SANDSTONE joints horizontal close to medium spaced (MANCHESTER MARLS FORMATION)
		20.50 - 22.00		89	80	75					
											...at 21.48 to 21.53mbgl clay infill
								21.71	11.05		Weak reddish brown MUDSTONE with some inter bedded grey SILTSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
								22.00	10.76		Reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
								25.00	7.76		End of Borehole at 25.000m

21 22 23 24 25

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
7.00	140	12.00	140					0.00	25.00								
9.40	85																
9.40	140																
25.00	85																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 25/07/2022 - 27/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384619.36 N399403.83
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH203	RO+RC	33.59m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.30	33.29		Grey reinforced CONCRETE (MADE GROUND)
								1.20	32.39		Black gravelly SAND. Gravel is fine to coarse sub angular to angular of brick, clinker and slag. Frequent whole and half brick cobbles (MADE GROUND)
								2.30	31.29		Brown mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is fine rounded of sandstone and mudstone (DEVENSIAN TILL)
								3.50	30.09		Reddish brown fine SAND. Very strong solvent odour (CHESTER FORMATION)
		5.00 - 6.50		31	9	0	85mm				Reddish brown SANDSTONE (CHESTER FORMATION)
		8.00 - 9.50		90	34	22	85mm	8.00	25.59		Very weak reddish brown fine grained SANDSTONE inter-bedded with bands of fine sand. Joints are horizontal closely spaced (CHESTER FORMATION)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
5.00	140	4.50	150					0.00	19.50								
6.50	85	16.00	140														
8.00	140																
9.50	85																
10.50	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 10.00 and 15.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 25/07/2022 - 27/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384619.36 N399403.83
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH203	RO+RC	33.59m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Very weak reddish brown fine grained SANDSTONE inter-bedded with bands of fine sand. Joints are horizontal closely spaced (CHESTER FORMATION)
		10.50 - 12.00		53	0	0	85mm				*...at 10.50 to 11.30mbgl recovered as sand*
		12.00 - 13.50		45	0	0	85mm				*...at 12.00 to 12.67mbgl recovered as sand*
		13.50 - 15.00		18	9	0	85mm				*...at 13.50 to 13.64mbgl recovered as sand* *...at 13.70 to 13.77mbgl band of grey siltstone*
		15.00 - 16.50		85	68	31	85mm	15.07	18.52		Very weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION) *...at 15.14 to 15.23mbgl non intact* *...at 15.45 to 15.57mbgl non intact* *...at 15.84 to 15.89mbgl yellowish grey siltstone* *...at 16.08 to 16.10mbgl sand infill*
		16.50 - 18.00		90	90	0	85mm				*...at 16.69mbgl becoming weak*
								19.50	14.09		End of Borehole at 19.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
5.00	140	4.50	150					0.00	19.50								
6.50	85	16.00	140														
8.00	140																
9.50	85																
10.50	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 10.00 and 15.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384721.68 N399517.64
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH205	RO+RC	31.38m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Brown sandy fine to coarse sub angular to angular GRAVEL of brick and concrete (MADE GROUND) `
								2.00	29.38		Brown slightly gravelly CLAY. Gravel is fine sub rounded of mudstone and sandstone (DEVENSIAN TILL)
								5.80	25.58		Reddish brown mottled grey slightly silty CLAY (DEVENSIAN TILL)
		7.50 - 9.00		75	0	0	85mm	7.50	23.88		Reddish brown MUDSTONE recovered as sightly gravelly clay. Gravel is fine to coarse subangular (MANCHESTER MARLS FORMATION)
		9.00 - 10.50		51	12	0	85mm	9.00	22.38		Very weak reddish brown MUDSTONE bedding horizontal closely spaced (MANCHESTER MARLS FORMATION) ...*at 9.05 to 9.57mbgl clay infill*

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
6.00	140	3.00	150					0.00	25.00								
18.00	85	6.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 10.00 and 15.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384721.68 N399517.64
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH205	RO+RC	31.38m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Very weak reddish brown MUDSTONE bedding horizontal closely spaced (MANCHESTER MARLS FORMATION)
		10.50 - 12.00		53	19	7	85mm	10.50	20.88		Very weak reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS) ...at 10.50 to 10.64mbgl non intact ...at 10.69 to 10.72mbgl non intact ...at 10.79 to 11.12mbgl non intact
		12.00 - 13.50		91	0	0	85mm				...at 12.00 to 13.37mbgl destructured to clay
		13.50 - 15.00		89	49	37	85mm				...at 13.50 to 13.99mbgl destructured to clay ...at 14.11 to 14.37mbgl clay infill ...at 14.54 to 14.70mbgl non intact ...at 14.64mbgl becoming weak
		15.00 - 16.50		87	47	34	85mm	15.92 16.12	15.46 15.26		Weak grey fine to medium grained SANDSTONE (MANCHESTER MARLS)
		16.50 - 18.00		85	39	31	85mm				Weak reddish brown MUDSTONE completely weathered to clay in places joints are horizontal closely spaced (MANCHESTER MARL FORMATION) ...at 17.02 to 17.70mbgl recovered as clay
								18.00	13.38		Reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)

11 12 13 14 15 16 17 18 19 20

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
6.00	140	3.00	150					0.00	25.00								
18.00	85	6.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 10.00 and 15.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384721.68 N399517.64
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH205	RO+RC	31.38m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
								25.00	6.38		End of Borehole at 25.000m

21 22 23 24 25 26 27 28 29 30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
6.00	140	3.00	150					0.00	25.00								
18.00	85	6.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 10.00 and 15.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384701.70 N399491.17
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH206	RO+RC	32.00m AoD	RM	1:25	Sheet 1 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Brown sandy GRAVEL. Gravel is fine to coarse sub anguar to angular of brick and concrete (MADE GROUND)
								2.00	30.00		Brown slightly gravelly CLAY. Gravel is fine sub rounded of mudstone and sandstone (DEVENSIAN TILL)

1 2 3 4 5

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
5.80	140	7.20	140					0.00	25.00								
19.20	85																
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon complete borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384701.70 N399491.17
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH206	RO+RC	32.00m AoD	RM	1:25	Sheet 2 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Brown slightly gravelly CLAY. Gravel is fine sub rounded of mudstone and sandstone (DEVENSIAN TILL)
							85mm	5.80	26.20		Reddish brown mottled grey slightly silty CLAY (DEVENSIAN TILL)
		5.80 - 7.20		90	0	0					
							85mm				
								7.65	24.35		Very weak yellowish brown fine grained SANDSTONE joints horizontal closely spaced (CHESTER FORMATION)
		7.20 - 8.70		93	43	21		7.93	24.07		*...at 7.65 to 7.93mbgl non intact*
											Weak reddish brown fine grained SANDSTONE (CHESTER FORMATION)
											...at 8.18 to 8.30mbgl non intact
											...at 8.50 to 8.64mbgl non intact
							85mm	8.70	23.30		Very weak reddish brown fine grained SANDSTONE recovered primarily as gravel with some small tabular sandstone discs (CHESTER FORMATION)
		8.70 - 10.20		64	35	17		9.20	22.80		Reddish brown gravelly CLAY. Gravel is fine to medium sub angular to angular of mudstone lithorelicts (CHESTER FORMATION)
								9.41	22.59		Weak reddish brown fine to medium grained SANDSTONE with occasionally clayey sand infill joints horizontal closely to medium spaced (CHESTER FORMATION)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
5.80	140	7.20	140					0.00	25.00								
19.20	85																
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon complete borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384701.70 N399491.17
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH206	RO+RC	32.00m AoD	RM	1:25	Sheet 3 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
							85mm				Weak reddish brown fine to medium grained SANDSTONE with occasionally clayey sand infill joints horizontal closely to medium spaced (CHESTER FORMATION)
		10.20 - 11.70		98	74	72					*...at 10.38 to 10.55mbgl non intact* *...at 10.74 to 10.87mbgl non intact* *...at 10.87 to 11.48mbgl occasional fine gravel inclusions and black speckling at joints*
							85mm	11.70	20.30		Reddish brown SANDSTONE recovered as clayey sandy sub angular fine to coarse gravel (CHESTER FORMATION)
		11.70 - 13.20		42	0	0					
							85mm				
		13.20 - 14.70		67	43	38		13.82 13.97	18.18 18.03		Weak reddish brown fine grained SANDSTONE (CHESTER FORMATION) *...at 13.92 to 14.09mbgl vertical fracture* Weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm				*...at 14.70 to 14.86mbgl non intact*

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
5.80	140	7.20	140					0.00	25.00								
19.20	85																
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon complete borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384701.70 N399491.17
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH206	RO+RC	32.00m AoD	RM	1:25	Sheet 4 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		14.70 - 16.20		100	81	54					Weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
											…at 15.26mbgl becoming weak dark reddish brown mudstone
							85mm	16.20	15.80		
		16.20 - 17.70		94	45	43					Grey SILTSTONE and reddish brown MUDSTONE recovered as fine to coarse sub angular to subrounded gravel (MANCHESTER MARLS FORMATION)
								16.86	15.14		Weak reddish brown MUDSTONE joints are horizontally closely spaced (MANCHESTER MARLS FORMATION)
											…at 17.20 to 17.70mbgl becoming very weak
							85mm				*…at 17.70 to 18.04mbgl becoming weak*
		17.70 - 19.20		100	88	83					*…at 18.18 to 18.30mbgl non intact*
								18.36	13.64		Weak grey fine to medium grained SANDSTONE. Joints are horizontal medium spaced with occasional black patches and reddish brown staining with up to 20mm penetration (MANCHESTER MARLS FORMATION)
											...at 19.09 to 19.20mbgl non intact
							85mm	19.20	12.80		Very weak reddish brown MUDSTONE completely weathered to clay in places joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
		19.20 - 20.70		84	62	37					*…at 19.42 to 19.54mbgl non intact*
								19.63 19.66 19.76	12.37 12.34 12.24		Very weak grey SILTSTONE (MANCHESTER MARLS FORMATION) Reddish brown slightly gravelly CLAY. Gravel is fine to medium sub angular to

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
5.80	140	7.20	140					0.00	25.00								
19.20	85																
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon complete borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/07/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384701.70 N399491.17
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH206	RO+RC	32.00m AoD	RM	1:25	Sheet 5 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								20.15	11.85		Reddish brown slightly gravelly CLAY. Gravel is fine to medium sub angular to angular of mudstone (MANCHESTER MARLS FORMATION)
								20.25	11.75		Weak reddish brown MUDSTONE inter-bedded with bands of weak grey SILTSTONE. Completely weathered to clay in places (MANCHESTER MARLS FORMATION)
								20.70	11.30		Medium strong light grey fine to medium grained SANDSTONE (MANCHESTER MARLS FORMATION)
											Medium strong reddish brown MUDSTONE joints horizontal closely spaced (MANCHESTER MARLS FORMATION)
											Reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
								25.00	7.00		End of Borehole at 25.000m

21 22 23 24 25

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
5.80	140	7.20	140					0.00	25.00								
19.20	85																
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon complete borehole was installed was a 50mm diameter standpipe with a response zone between 21.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 10/08/2022 - 11/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384797.90 N399510.73
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH207	RO+RC	36.17m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Brown gravelly SAND. Gravel is fine to coarse rounded to angular of brick, mudstone and sandstone (MADE GROUND)
								1.00	35.17		Brown slightly gravelly CLAY. Gravel is fine to medium sub rounded to rounded of sandstone and mudstone (DEVENSIAN TILL)
								1.50	34.67		Reddish brown slightly gravelly CLAY. Gravel is fine to medium rounded of mudstone (DEVENSIAN TILL)
		6.00 - 7.50		60	31	13	85mm	6.00	30.17		Extremely weak reddish brown MUDSTONE joints are horizontal closely spaced(MANCHESTER MARLS FORMATION)
								6.80	29.37		*...at 6.00 to 6.31mbgl non intact*
								6.89	29.28		*...at 6.31 to 6.40mbgl becoming clay*
											...at 6.40 to 6.50mbgl non intact
											...at 6.72 to 6.75mbgl grey siltstone
		7.50 - 9.00		87	25	11	85mm	7.63	28.54		Medium strong yellowish brown fine grained SANDSTONE with black spotting (MANCHESTER MARLS FORMATION)
								7.72	28.45		Very weak reddish brown MUDSTONE joints horizontal very closely spaced (MANCHESTER MARLS FORMATION)
								8.50	27.67		Very weak reddish brown and grey SILTSTONE (MANCHESTER MARLS FORMATION)
								8.66	27.51		Reddish brown MUDSTONE recovered as gravelly CLAY. Gravel is fine to medium sub angular (MANCHESTER MARLS FORMATION)
		9.00 - 10.50		77	36	20	85mm	9.00	27.17		*...at 8.29 to 8.37mbgl tabular discs of mudstone*
								9.44	26.73		Very weak reddish brown MUDSTONE
								9.73	26.44		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
6.00	140	1.50	150					0.00	25.00								
19.50	85	6.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 20.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 10/08/2022 - 11/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384797.90 N399510.73
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH207	RO+RC	36.17m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Very weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm	10.50	25.67		Reddish brown gravelly CLAY. Gravel is fine to medium sub angular of mudstone (MANCHESTER MARLS FORMATION)
		10.50 - 12.00		91	59	47		11.17	25.00		Grey and yellow fine to coarse sub angular to sub rounded siltstone and sandstone GRAVEL (MANCHESTER MARLS FORMATION)
								11.37	24.80		Very weak reddish brown MUDSTONE completely weathered to clay in places joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm				*...at 9.40 to 9.53mbgl destructured to gravelly clay*
		12.00 - 13.50		80	18	0					Medium strong dark grey SILTSTONE (MANCHESTER MARLS FORMATION)
											Very weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm	13.50	22.67		*...at 10.60 to 10.74mbgl non intact*
											...10.94 to 11.08mbgl non intact
		13.50 - 15.00		87	6	0					Weak grey SILTSTONE (MANCHESTER MARLS FORMATION)
											...at 11.22 to 11.37mbgl non intact
											Very weak reddish brown MUDSTONE completely weathered to clay in places joints are horizontal closely to medium spaced (MANCHESTER MARLS FORMATION)
								14.72	21.45		*...at 12.00 to 12.10mbgl non intact*
							85mm				*...at 12.16 to 12.44mbgl destructured to clay*
											...at 12.55 to 12.95mbgl destructured to clay
		15.00 - 16.50		73	25	13					*...at 12.95 to 13.00mbgl non intact*
											...13.00 to 13.10mbgl destructured to cla
											...at 13.15 to 13.20mbgl non intact
											Reddish brown MUDSTONE recovered as gravelly CLAY. Gravel is fine to coarse sub angular (MANCHESTER MARLS FORMATION)
							85mm				Very weak reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
		16.50 - 18.00		89	29	8					*...at 15.00 to 15.13mbgl gravel is fine to coarse sub angular to sub rounded of mudstone*
											...at 15.32 to 15.70mbgl clay infill
											...at 15.74 to 15.88mbgl clay infill
											...at 16.03 to 16.14mbgl non intact
								18.00	18.17		*...at 16.71 to 16.91mbgl non intact*
											...at 16.97 to 17.29mbgl non intact
											...at 17.45 to 17.81 mbgl non intact
											Reddish brown MUDSTONE (MANCHESTER MARLS)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
6.00	140	1.50	150					0.00	25.00								
19.50	85	6.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 20.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 10/08/2022 - 11/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384797.90 N399510.73
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH207	RO+RC	36.17m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown MUDSTONE (MANCHESTER MARLS)
								25.00	11.17		End of Borehole at 25.000m

21 22 23 24 25 26 27 28 29 30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
6.00	140	1.50	150					0.00	25.00								
19.50	85	6.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 20.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 03/08/2022 - 05/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384757.48 N399461.38
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH208	RO+RC	42.00m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.20	41.80		Light brown slightly silty gravelly SAND. Gravel is fine to coarse angular of ceramic and brick (MADE GROUND)
											Dark brown gravelly SAND. Gravel is fine to coarse sub angular to sub rounded of clinker and brick (MADE GROUND)
								1.40	40.60		Brown slightly gravelly CLAY gravel is fine to medium angular of brick and clinker (MADE GROUND)
								1.80	40.20		Light brown mottled grey slightly gravelly CLAY. Gravel is fine rounded of sandstone and mudstone (DEVENSIAN TILL)
								10.00	32.00		

1 2 3 4 5 6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
12.00	140	4.50	150					0.00	24.00								
24.00	85	12.00	140														

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 19.00 and 24.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 03/08/2022 - 05/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384757.48 N399461.38
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH208	RO+RC	42.00m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown MUDSTONE (MANCHESTER MARLS FORMATIONS)
							85mm	12.00	30.00		
								12.09	29.91		Reddish brown fine to medium sub angular mudstone and sandstone GRAVEL (MANCHESTER MARLS FORMATION)
		12.00 - 13.50		79	68	57					Weak reddish brown fine grained SANDSTONE joints are horizontal medium spaced (MANCHESTER MARLS FORMATION)
								13.00	29.00		*...at 12.75 to 12.80mbgl non intact*
							85mm	13.50	28.50		Weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
								13.69	28.31		
								13.85	28.15		Reddish brown slightly gravelly clayey SAND. Gravel is fine to medium subrounded of SANDSTONE (MANCHESTER MARLS FORMATION)
		13.50 - 15.00		81	64	42		14.10	27.90		Weak reddish brown clayey SANDSTONE (MANCHESTER MARLS FORMATION)
							85mm				Weak grey SILTSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
		15.00 - 16.50		93	50	44					Weak reddish brown MUDSTONE completely weathered to clay in places joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
											...at 14.10 to 14.15mbgl clay infill
											...at 15.00 to 15.16mbgl non intact
											...at 15.25 to 15.48mbgl non intact
											...at 15.53 to 15.58mbgl clay infill
							85mm				*...at 15.70 to 15.80mbgl becoming destructured to clay*
								16.95	25.05		*...at 16.07 to 16.17mbgl clay infill*
		16.50 - 18.00		78	65	51					*...at 16.60 to 16.82mbgl non intact*
								17.52	24.48		Strong reddish brown clayey fine grained SANDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm	18.00	24.00		Weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
								18.21	23.79		
								18.44	23.56		
								18.66	23.34		*...at 17.58 to 17.61mbgl clay infill*
		18.00 - 19.50		86	81	60					Medium strong yellowish brown fine grained SANDSTONE (MANCHESTER MARLS FORMATION)
							85mm				Weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
								19.89	22.11		*...at 18.28 to 18.29 clay infilled fracture*

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
12.00	140	4.50	150					0.00	24.00								
24.00	85	12.00	140														

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 19.00 and 24.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 03/08/2022 - 05/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384757.48 N399461.38
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH208	RO+RC	42.00m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		19.50 - 21.00		92	60	15		20.13	21.87		Medium strong grey SILTSTONE joints are horizontal closely spaced (MANCHESTER MARLS)
							85mm	21.00	21.00		Weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
		21.00 - 22.50		90	21	7		21.20	20.80		*...at 19.50 to 19.80mbgl non intact*
											Medium strong grey fine grained SANDSTONE and SILTSTONE (MANCHESTER MARLS FORMATION)
											...at 20.10 to 20.13mbgl mudstone gravel infilled fracture
							85mm				Weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
		22.50 - 24.00		66	20	15					Grey fine to coarse sub angular sandstone GRAVEL (MANCHESTER MARLS FORMATION)
											Weak reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
											...at 21.20 to 21.86mbgl becoming destructured to clay
											...at 22.50 to 22.82mbgl becoming destructured to clay
								24.00	18.00		End of Borehole at 24.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
12.00	140	4.50	150					0.00	24.00								
24.00	85	12.00	140														

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 19.00 and 24.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 29/07/2022 - 02/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384796.49 N399492.29
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH209	RO+RC	40.46m AoD	RM	1:25	Sheet 1 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.40	40.06		Brown sandy fine to coarse sub angular to angular brick GRAVEL (MADE GROUND)
											Grey sandy fine to coarse sub angular to angular brick and ceramic GRAVEL. Occassional whole and half brick cobbles and timber fragements (MADE GROUND)
											…at 1.50 to 2.00mbgl becoming slightly clayey
								2.00	38.46		Greyish brown gravelly CLAY. Gravel is fine to coarse sub angular to angular of brick. Occassional glass fragments (MADE GROUND)
								3.00	37.46		Reddish brown slightly gravelly CLAY. Gravel is fine to medium sub rounded to rounded of mudstone (DEVENSIAN TILL)
								4.00	36.46		Reddish brown slightly gravelly clayey SAND. Gravel is fine to medium sub rounded to rounded of mudstone (DEVENSIAN TILL)
								5.00	35.46		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
12.00	140	4.50	150					0.00	24.00								
24.00	85	12.00	140														

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 12.00 and 17.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 29/07/2022 - 02/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384796.49 N399492.29
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH209	RO+RC	40.46m AoD	RM	1:25	Sheet 2 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Brown sandy gravelly CLAY. Gravel fine to coarse sub angular of mudstone (DEVENSIAN TILL)
								6.00	34.46		
											Reddish brown slightly gravelly clayey SAND. Gravel is fine to coarse sub angular of mudstone (DEVENSIAN TILL)
								7.50	32.96		
											Reddish brown slightly gravelly sandy CLAY. Gravel is fine to medium sub angular of mudstone (DEVENSIAN TILL)
								9.00	31.46		
											Extremely weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)

6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
12.00	140	4.50	150					0.00	24.00								
24.00	85	12.00	140														

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 12.00 and 17.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 29/07/2022 - 02/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384796.49 N399492.29
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH209	RO+RC	40.46m AoD	RM	1:25	Sheet 3 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Extremely weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm				…at 12.13 to 12.18mbgl reddish brown clay
											…at 12.29 to 12.35mbgl reddish brown clay
								12.52	27.94		Very weak reddish brown SILTSTONE (MANCHESTER MARLS FORMATION)
		12.00 - 13.50		107	100	48		12.66	27.80		Reddish brown MUDSTONE recovered as slightly gravelly clay. Gravel is fine to medium sub angular (MANCHESTER MARLS FORMATION)
								13.12	27.34		Weak reddish brown MUDSTONE completely weathered to clay in places joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
								13.40	27.06		…at 13.32 to 13.50mbgl no longer clayey
							85mm	13.60	26.86		Strong yellowish brown fine grained SANDSTONE with grey, red and dark grey staining joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
								13.80	26.66		Strong yellowish brown and reddish brown SILTSTONE with dark grey staining (MANCHESTER MARLS FORMATION)
		13.50 - 15.00		87	67	39					Weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
							85mm	15.00	25.46		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
12.00	140	4.50	150					0.00	24.00								
24.00	85	12.00	140														

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 12.00 and 17.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 29/07/2022 - 02/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384796.49 N399492.29
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH209	RO+RC	40.46m AoD	RM	1:25	Sheet 4 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		15.00 - 16.50		93	27	7					Reddish brown MUDSTONE recovered as reddish brown slightly gravelly clay. Gravel is fine to medium sub rounded to sub angular (MANCHESTER MARLS FORMATION)
											…at 15.00 to 15.40mbgl becoming very gravelly
											…at 15.40 to 15.70mbgl becoming slightly gravelly
											…at 15.70 to 16.10mbgl becoming mottled grey silty sandy gravelly
								16.10	24.36		Strong grey SILTSTONE with some dark grey staining joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
		16.50 - 18.00		20	0	0	85mm	16.50	23.96		Reddish brown MUDSTONE and grey SILTSTONE recovered as fine to medium sub angular mudstone and siltstone gravel (MANCHESTER MARLS FORMATION)
		18.00 - 19.50		97	61	46	85mm	18.00	22.46		Reddish brown MUDSTONE recovered as gravelly clay. Gravel is fine to coarse sub rounded to sub angular (MANCHESTER MARLS FORMATION)
								18.58	21.88		Weak reddish brown MUDSTONE bedding horizonal joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
											…at 18.70 to 18.95mbgl destructured to clay
							85mm				*…at 19.75 to 19.95mbgl becoming destructured to clay*

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
12.00	140	4.50	150					0.00	24.00								
24.00	85	12.00	140														

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 12.00 and 17.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 29/07/2022 - 02/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384796.49 N399492.29
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH209	RO+RC	40.46m AoD	RM	1:25	Sheet 5 of 5

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		19.50 - 21.00		33	33	0					Weak reddish brown MUDSTONE bedding horizonal joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
		21.00 - 22.50		95	69	27	85mm	21.00	19.46		Weak reddish brown MUDSTONE completely weathered to clay in places joints are horizontal closely spaced (MANCHESTER MARLS FORMATION) *…at 21.00 to 21.10mbgl becoming clayey fine to coarse sub angular mudstone gravel* *…at 21.30 to 21.60mbgl becoming destructured to clay* *…at 21.60 to 21.76mbgl vertical fracture* *…at 21.76 to 22.01mbgl 80 degree fracture* *…at 22.10 to 22.21mbgl 80 degree fracture*
		22.50 - 24.00		97	0	0	85mm	22.60	17.86		Reddish brown MUDSTONE recovered as gravelly clay. Gravel is fine to medium sub angular to angular of mudstone (MANCHESTER MARLS FORMATION)
								24.00	16.46		End of Borehole at 24.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
12.00 24.00	140 85	4.50 12.00	150 140					0.00	24.00								

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 12.00 and 17.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 08/08/2022 - 09/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384845.14 N399489.02
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH210	RO+RC	41.38m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.40	40.98		Paving cobbles (MADE GROUND)
								0.50	40.88		Grey fine to medium sandy fine to coarse sub angular to angular sandstone GRAVEL (MADE GROUND)
								1.00	40.38		Greyish brown gravelly ashy SAND. Gravel is fine to coarse sub angular to angular of brick, sandstone (MADE GROUND)
											Brown slightly gravelly CLAY. Gravel is fine to medium of mudstone and occassional mudstone and sandstone cobbles (DEVENSIAN TILL)
								4.50	36.88		Reddish brown slightly gravelly very sandy CLAY. Gravel is fine to medium sub rounded to sub angular of mudstone (DEVENSIAN TILL)
								7.50	33.88		Very weak reddish brown MUDSTONE with bands of grey SILTSTONE and SANDSTONE (MANCHESTER MARLS FORMATION)
		9.00 - 10.50		90	85	63	85mm	9.06	32.32		Weak reddish brown MUDSTONE with orange and grey staining joints are horizontal closely spaced (MANCHESTER MARLS FORMATION)
								9.67	31.71		*...at 9.32 to 9.40mbgl non intact*

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
9.00	140	1.50	150					0.00	25.00								
22.50	85	9.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 20.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 08/08/2022 - 09/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384845.14 N399489.02
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH210	RO+RC	41.38m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Weak grey SILTSONE (MANCHESTER MARLS FORMATION)
							85mm	10.50	30.88		…at 10.07 to 10.39mbgl becoming greyish brown and reddish brown
								10.64	30.74		Reddish brown MUDSTONE recovered as fine to coarse sub angular GRAVEL (MANCHESTER MARLS FORMATION)
		10.50 - 12.00		43	33	27		10.75	30.63		Weak grey SILTSTONE (MANCHESTER MARLS FORMATION)
											…at 10.68 to 10.75mbgl non intact
							85mm				Very weak reddish brown MUDSTONE completely weathered to clay in places (MANCHESTER MARLS FORMATION)
											…at 12.05 to 12.43mbgl destructured to clay
		12.00 - 13.50		91	57	27					…at 12.48 to 12.61mbgl destructured to clay …at 12.61 to 12.76mbgl 15 degree bedding …at 12.76 to 12.78mbgl gravel infilled joint …at 12.78 to 13.13mbgl horizontal bedding …at 13.13 to 13.37mbgl 10 degree bedding
							85mm				…at 13.50 to 13.86mbgl non intact
		13.50 - 15.00		84	30	26					…at 14.02 to 14.55mbgl destructured to clay
							85mm				…at 15.00 to 15.25mbgl non intact
		15.00 - 16.50		79	51	46					…at 15.35 to 15.53mbgl destructured to clay …at 15.62mbgl to 15.87 destructured to clay
		16.50 - 18.00		50	17	7	85mm				
							85mm	18.00	23.38		Reddish brown MUDSTONE recovered as slightly gravelly CLAY. Gravel is fine to medium sub angular (MANCHESTER MARLS FORMATION)
								18.33	23.05		Reddish brown MUDSTONE recovered as fine to coarse sub angular to angular GRAVEL (MANCHESTER MARLS FORMATION)
		18.00 - 19.50		49	0	0					
							85mm				
								19.72	21.66		Weak reddish brown MUDSTONE

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
9.00	140	1.50	150					0.00	25.00								
22.50	85	9.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 20.00 and 25.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 08/08/2022 - 09/08/2022
Location: Manchester	Contractor: DMW Drilling Ltd	Co-ords: E384845.14 N399489.02
Project No. : 4328	Crew Name: D.G, L.L	Drilling Equipment: Massenza MI3

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH210	RO+RC	41.38m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		19.50 - 21.00		78	51	15		20.44	20.94		Weak reddish brown MUDSTONE inter-bedded with weak grey SILTSTONE (MANCHESTER MARLS FORMATION) *...at 19.82 to 19.98mbgl non intact* *...at 20.20 to 20.29mbgl non intact* *...at 20.33 to 20.37mbgl becoming grey* *...at 20.37 to 20.44mbgl non intact* Weak reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
								25.00	16.38		End of Borehole at 25.000m

21 22 23 24 25 26 27 28 29 30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
9.00	140	1.50	150					0.00	25.00								
22.50	85	9.00	140														
25.00	140																

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 20.00 and 25.00mbgl.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	
Project No. : 4328	Crew Name: RM	Equipment: Hand Digging Tools

Location Number	Location Type	Level	Logged By	Scale	Page Number
HP301	TP		RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	ES					Dark brown gravelly CLAY with frequent roots and rootlets. Gravel is fine to coarse sub angular to angular of brick, limestone and sandstone. (TOPSOIL - MADE GROUND)
					0.80			End of Borehole at 0.800m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

1. Location CAT scanned before breaking ground 2. No water strikes were encountered within inspection pit 3. On completion inspection pit was backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 06/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384740.70 N399421.63
Project No. : 4328	Crew Name:	Equipment: 13T Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
MP301	TP	40.20m AoD	LR	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	D					Loose dark brown clayey very gravelly SAND. Gravel is fine to coarse angular to rounded of wood, plastic, brick, sandstone. Occasional cobbles of brick and occasional pockets of ash (MADE GROUND)
		1.00 1.00	B ES		1.00	39.20		End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 06/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384725.10 N399474.22
Project No. : 4328	Crew Name:	Equipment: 13T Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
MP302	TP	36.00m AoD	LR	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50	D					Weeds over loose brown clayey gravelly SAND. Gravel is fine to coarse angular to rounded of wood, brick, concrete and plastic (MADE GROUND)
		1.00 1.00	B ES		1.00	35.00		End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04		Client: FEC		Date: 06/04/2023	
Location: Manchester		Contractor: PB Drilling Ltd		Co-ords: E384752.31 N399439.40	
Project No. : 4328		Crew Name:		Equipment: 13T Excavator	
Location Number MP303	Location Type TP	Level 39.50m AoD	Logged By LR	Scale 1:25	Page Number Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					1.00	38.50		Brown and black silty gravelly SAND. Gravel is fine to coarse subrounded to angular of brick, plastic, glass and concrete. Occasional ash pockets and frequent timber and metal fragments (MADE GROUND)
								End of Borehole at 1.000m

1
2
3
4
5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 06/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384697.67 N399439.07
Project No. : 4328	Crew Name:	Equipment: 13T Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
MP304	TP	34.30m AoD	LR	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		1.00	ES		1.00	33.30		Loose orangish brown slightly clayey very gravelly SAND. Gravel is fine to coarse angular of wood, brick and sandstone. Occasional pockets of ash (MADE GROUND)
								End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.



RBH305 – Core Runs 1 to 4 - 4.50 – 10.10 mbgl



RBH305 – Core Run 1 to 4 – 4.50 – 10.10 mbgl



RBH305 – Core Runs 4 to 7 – 10.10 – 13.50mbgl



RBH305 – Core Runs 4 to 5 – 10.10 – 12.00 mbgl



RBH305 – Core Run 7 – 12.00-13.50 mbgl



RBH306 – Core Run 1 – 7.50 to 9.00 mbgl



RBH306 – Core Run 2 – 15.00 – 16.50 mbgl



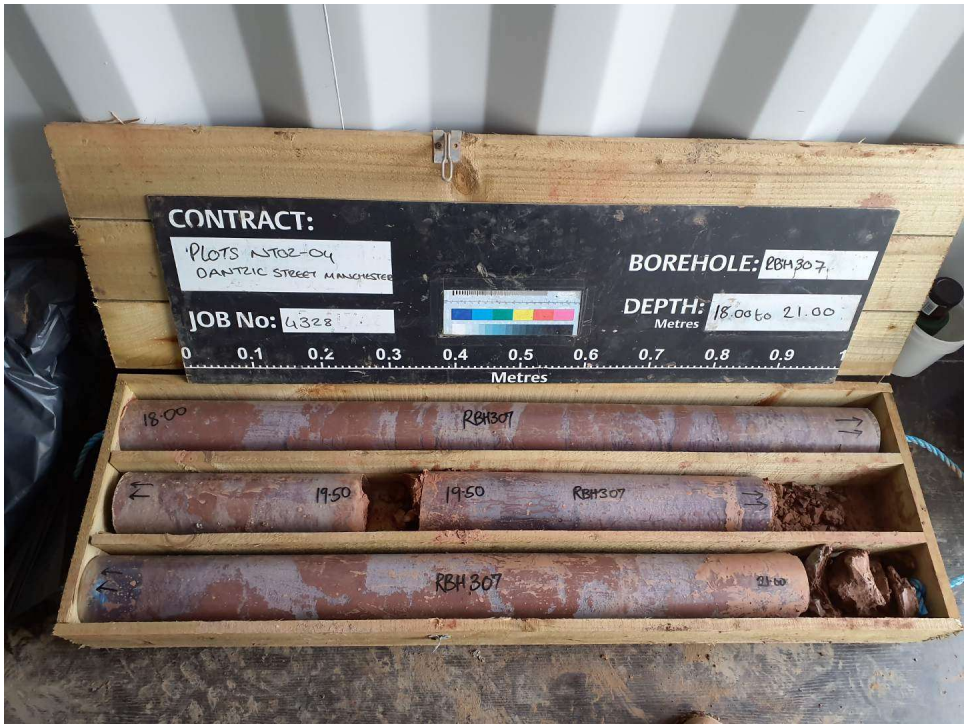
RBH306 – Core Run 3 – 18.00 to 19.50mbgl



RBH306 – Core Run 4 - 19.50 to 21.00mbgl



RBH306 – Core Run 5 – 21.00 to 22.50mbgl



RBH307 – Core Runs 1 to 2 – 18.00 to 21.00mbgl



RBH307 – Core Runs 1 to 2 – 18.00 to 21.00mbgl

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384576.68 N399444.27
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH301	RO+RC	31.41m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Dark brown gravelly sandy CLAY. Gravel is fine to coarse subangular to angular of brick (MADE GROUND)
								1.20	30.21		Brown clayey very gravelly SAND. Gravel is fine to coarse subangular to angular of brick and concrete (MADE GROUND)
								2.00	29.41		Reddish brown fine to medium grained SANDSTONE (CHESTER FORMATION)
							(36)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	15.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.00 and 10.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384576.68 N399444.27
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH301	RO+RC	31.41m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown fine to medium grained SANDSTONE (CHESTER FORMATION)
								15.00	16.41		End of Borehole at 15.000m

11 12 13 14 15 16 17 18 19 20

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	15.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.00 and 10.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384608.42 N399383.57
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH302	RO+RC	33.60m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.30	33.30		Concrete slab (MADE GROUND)
											Brown clayey very gravelly fine to coarse SAND. Gravel is fine to coarse subangular to angular of brick, (MADE GROUND)
							(8)	3.00	30.60		Reddish brown fine to medium grained SANDSTONE (CHESTER FORMATION)
							(50)				
							(50)				
							(50)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	15.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.00 and 12.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384608.42 N399383.57
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH302	RO+RC	33.60m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown fine to medium grained SANDSTONE (CHESTER FORMATION)
								15.00	18.60		End of Borehole at 15.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	15.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.00 and 12.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384640.07 N399422.36
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH303	RO+RC	33.01m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.15	32.86		Asphalt (MADE GROUND)
											Brown clayey very gravelly fine to coarse SAND. Gravel is fine to coarse sub angular to angular of concrete brick and clinker (MADE GROUND)
								1.50	31.51		Grey sandy CLAY (DEVENSIAN TILL)
								2.00	31.01		Brown clayey SAND (DEVENSIAN TILL)
								3.70	29.31		Reddish brown fine to medium grained SANDSTONE (CHESTER FORMATION)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	15.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.00 and 10.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384640.07 N399422.36
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH303	RO+RC	33.01m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown fine to medium grained SANDSTONE (CHESTER FORMATION)
								13.00	20.01		Reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
								15.00	18.01		End of Borehole at 15.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	15.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.00 and 10.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384680.66 N399402.07
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH304	RO+RC	34.66m AoD	RM	1:50	Sheet 1 of 1

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Brown gravelly sandy CLAY. Gravel is fine to coarse subangular to angular of brick (MADE GROUND)
							(7)	1.20	33.46		
											Loose becoming medium dense brown clayey gravelly SAND. Gravel is fine to coarse rounded of sandstone and quartzite (DEVENSIAN TILL)
							(29)				
								3.60	31.06		
											Dense grey slightly sandy medium to coarse rounded to well rounded GRAVEL of sandstone, quartzite and siltstone (RIVER TERRACE DEPOSITS)
							(38)				
							(40)				
							(46)				
							(43)				
							(32)				
								9.45	25.21		End of Borehole at 9.450m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	20.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. River Terrace Gravels were encountered within the borehole from 3.60 to 9.45mbgl halting drilling progress as gravels became coarser with depth and risked damaging the drilling rig due to excessive strain. Therefore the borehole was terminated at 9.45mbgl 4. Upon completion borehole was installed was a 50mm diameter

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384636.01 N399469.21
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH305	RO+RC	32.15m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Brown clayey very gravelly SAND. Gravel is fine to coarse subangular to angular of brick and concrete (MADE GROUND)
								1.20	30.95		Brown sandy gravelly CLAY. Gravel is fine to coarse subangular to angular of brick (MADE GROUND)
								2.00	30.15		Medium dense brown clayey gravelly SAND gravel is fine to coarse rounded of sandstone and mudstone (DEVENSIAN TILL)
							(27)				
								3.20	28.95		Reddish brown fine to medium grained SANDSTONE (CHESTER FORMATION)
							(46)				
								4.50	27.65		Extremely weak reddish brown fine to medium grained SANDSTONE. Joints are horizontal to 10 degrees very close to closely spaced (CHESTER FORMATION)
		4.50 - 6.00		73	39	9					*...at 4.50 to 4.80mbgl sandy gravelly clay*
		6.00 - 7.50		0	0	0	(50)				
							(50)	7.50	24.65		Extremely weak reddish brown fine to coarse grained SANDSTONE. Joints are 10 degrees very closely to closely spaced (CHESTER FORMATION)
		7.50 - 9.00		40	17	7					*...at 7.50 to 7.65 very soft reddish brown very sandy clay*
		9.00 - 10.50		100	100	100	(50)	9.00	23.15		Extremely weak reddish brown MUDSTONE. Joints are horizontal closely to mediumly spaced (MANCHESTER MARLS FORMATION)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	20.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.00 and 9.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384636.01 N399469.21
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH305	RO+RC	32.15m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
							(50)				Extremely weak reddish brown MUDSTONE. Joints are horizontal closely to mediumly spaced (MANCHESTER MARLS FORMATION)
		10.50 - 12.00		108	108	103					
							(50)				*...at 12.00 to 12.13mbgl weathered to soft reddish brown clay*
		12.00 - 13.50		100	97	89					*...at 12.22 to 12.52mbgl thinly laminated with greyish green SILTSTONE*
							(50)	13.50	18.65		Reddish brown MUDSTONE (MANCHESTER MARLS FROMATION)
							(50)				
							(50)				
							(50)				
							(50)				
								20.00	12.15		End of Borehole at 20.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	20.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.00 and 9.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384692.00 N399446.81
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH306	RO+RC	33.73m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.60	33.13		Brown clayey very gravelly SAND. Gravel is fine to coarse subangular to angular of brick (MADE GROUND)
							(33)	2.00	31.73		Brown gravelly very sandy CLAY. Gravel is fine to coarse subangular to angular of brick (MADE GROUND)
							(32)	3.30	30.43		Grey sandy CLAY (MADE GROUND)
							(31)				Brown stiff sandy gravelly CLAY. Gravel is fine to coarse sub angular to rounded of sandstone (DEVENSIAN TILL)
							(50)				
		7.50 - 9.00		80	21	7	(32)	7.80	25.93		*...at 7.50 to 7.70mbgl sandstone gravel and cobbles* Extremely weak reddish brown fine to medium grained SANDSTONE. Closely spaced joints infilled with sand (CHESTER FORMATION)
							(50)	8.80	24.93		Reddish brown MUDSTONE and fine to medium grained reddish brown SANDSTONE (MANCHESTER MARLS FORMATION)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	30.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 9.00 and 11.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384692.00 N399446.81
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH306	RO+RC	33.73m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
							(50)				Reddish brown MUDSTONE and fine to medium grained reddish brown SANDSTONE (MANCHESTER MARLS FORMATION)
							(50)				
		15.00 - 16.50		44	0	0					...at 15.00 to 15.40mbgl soft reddish brown clay
							(50)	18.00	15.73		
		18.00 - 19.50		90	76	31					Very weak clayey reddish brown fine grained SANDSTONE. Joints are 10 degrees closely to mediumly spaced (MANCHESTER MARLS FORMATION)
								19.31	14.42		
								19.50	14.23		Extremely weak reddish brown MUDSTONE. Joints are horizontal very closely spaced (MANCHESTER MARLS FORMATION)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	30.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 9.00 and 11.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384692.00 N399446.81
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH306	RO+RC	33.73m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		19.50 - 21.00		73	49	29		20.30	13.43		Very weak reddish brown fine grained SANDSTONE. Joints are 10 to 20 degrees closely to mediumly spaced (CHESTER FORMATION SANDSTONE)
											...at 19.50 to 19.60mbgl gravelly clay
								21.00	12.73		Very weak reddish brown MUDSTONE. Joints are closely spaced (MANCHESTER MARLS FORMATION)
		21.00 - 22.50		97	80	55		21.66	12.07		Weak reddish brown fine to medium grained SANDSTONE. Joints are closely to mediumly spaced horizontal (MANCHESTER MARLS FORMATION)
								22.00	11.73		Very weak grey stained reddish brown fine to medium grained SANDSTONE. No joints (MANCHESTER MARLS FORMATION)
								22.50	11.23		Extremely weak reddish brown MUDSTONE. No joints (MANCHESTER MARLS FORMATION)
											...at 22.14 to 22.34mbgl becoming very weak
											Reddish brown MUDSTONE and fine to medium grained reddish brown SANDSTONE (MANCHESTER MARLS FORMATION)
								30.00	3.73		End of Borehole at 30.000m

21 22 23 24 25 26 27 28 29 30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	30.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 9.00 and 11.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384749.15 N399493.27
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH307	RO+RC	39.84m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
							(23)				Medium dense to dense brown slightly clayey very gravelly SAND. Gravel is fine to coarse subangular to angular of brick, sandstone and concrete. Low cobble content. (MADE GROUND)
							(29)				
							(47)				
							(31)				
							(34)				
							(23)	9.00	30.84		Reddish brown MUDSTONE interbedded with reddish brown fine to medium grained SANDSTONE (MANCHESTER MARLS FORMATION)
							(37)				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	24.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 9.00 and 20.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384749.15 N399493.27
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH307	RO+RC	39.84m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
							(50)				Reddish brown MUDSTONE interbedded with reddish brown fine to medium grained SANDSTONE (MANCHESTER MARLS FORMATION)
							(50)				
							(50)				
							(50)				
		18.00 - 19.50		99	87	82		18.00	21.84		Extremely weak reddish brown MUDSTONE. Joints are horizontal closely to mediumly spaced (MANCHESTER MARLS)
											...at 18.00 to 18.16mbgl soft clay
								19.04	20.80		Very weak grey SILTSTONE with bands of reddish brown MUDSTONE. Joints are horizontal closely spaced (MANCHESTER MARLS)
								19.50	20.34		Extremely weak reddish brown

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	24.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 9.00 and 20.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 20/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384749.15 N399493.27
Project No. : 4328	Crew Name: M.E, G.S	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH307	RO+RC	39.84m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		19.50 - 21.00		100	83	77					Extremely weak reddish brown MUDSTONE joints are horizontal closely spaced (MANCHESTER MARLS)
											...at 20.05 to 20.35mbgl firm clay
							(50)				
							(50)	24.00	15.84		End of Borehole at 24.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)
								0.00	24.00	90	0						

Remarks

1. Location CAT scanned before breaking ground 2. Due to the drilling methodology the accuracy of measured water strikes is questionable and therefore water strikes were not recorded 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 9.00 and 20.00mbgl.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384692.39 N399499.68
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP301	TP	31.87m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.15	31.72		Asphalt (MADE GROUND) *...at 0.00 to 3.10mbgl instability in western face* Dark brown clayey sandy fine to coarse subangular to angular GRAVEL of brick, slate, ceramic and slag. Rare glass and plastic (MADE GROUND)
		0.50	ES		0.60	31.27		*...at 0.50mbgl clay pipe (disused) running east to west* Firm light brown mottled orangish brown slightly sandy CLAY (DEVENSIAN TILL)
		1.00 1.00 1.00 1.00	D	HVP=57.0 HVP=68.0 HVP=84.0				
					1.50	30.37		Very soft orangish brown slightly gravelly sandy CLAY. Gravel is fine to medium subangular to rounded of sandstone, mudstone and quartzite (DEVENSIAN TILL)
		2.00 2.00 2.00 2.00	D	HVP=15.0 HVP=15.0 HVP=9.0				
					2.30	29.57		Light grey slightly gravelly very clayey SAND. Gravel is fine to coarse rounded of sandstone mudstone and quartzite (DEVENSIAN TILL)
					2.70	29.17		Orangish brown silty gravelly SAND. Gravel is fine to coarse sub angular to rounded of sandstone and quartzite rare angular sandstone cobbles (DEVENSIAN TILL)
		3.00	B					
					3.10	28.77		End of Borehole at 3.100m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
5.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384717.01 N399494.28
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP302	TP	32.25m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.40 0.40	B ES					Brown and dark brown sandy fine to coarse subangular to angular GRAVEL of brick and slate. High cobble content of brick (MADE GROUND)
					1.00	31.25		
		1.10 1.10	D ES					Firm brown and dark brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse sub angular to angular of brick (MADE GROUND)
					1.30	30.95		
		1.50	B					Orangish brown clayey slightly gravelly fine to medium SAND. Gravel is fine to coarse subangular to rounded of sandstone, mudstone and quartzite (DEVENSIAN TILL)
					3.30	28.95		End of Borehole at 3.300m

1 2 3 4 5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
5.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384801.86 N399489.35
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP304	TP	41.26m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30	40.96		Grass over dark brown gravelly SAND. Gravel is fine to coarse subangular of brick. Occasional plastic fragments and frequent roots and rootlets (MADE GROUND)
		0.50	B					Dark brown very gravelly fine to coarse SAND. Gravel is fine to coarse subangular to angular of brick and concrete. Medium cobble content of brick and concrete. Occasional plastic and wood fragments (MADE GROUND)
		0.50	ES					*...at 0.70 to 2.10mbgl brick structure in northern portion*
		1.50	ES		1.80	39.46		Orangish brown stiff slightly gravelly CLAY. Gravel is fine to medium rounded of sandstone (DEVENSIAN TILL)
		2.20	D		2.10	39.16		Very stiff to stiff reddish brown slightly sandy CLAY (DEVENSIAN TILL)
		2.20			3.10	38.16		End of Borehole at 3.100m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
5.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384717.78 N399479.50
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP305	TP	32.97m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
	▼	0.50 0.50	B ES		0.40	32.57		Brown slightly clayey sandy fine to coarse subangular to angular GRAVEL of brick and concrete. Medium brick and concrete cobble content. (MADE GROUND)
					0.70	32.27		Dark brown slightly clayey sandy fine to coarse sub angular to angular GRAVEL of brick and concrete. Occasional timber fragments (MADE GROUND) *...at 0.60 to 1.20 brick structure in western face*
		1.00	D		1.20	31.77		Firm orangish brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is rounded to subangular of sandstone and quartzite (DEVENSIAN TILL)
		1.50	ES		2.00	30.97		Light brown clayey gravelly fine to coarse SAND. Gravel is fine to coarse subangular to rounded of sandstone, mudstone and quartzite (DEVENSIAN TILL)
								End of Borehole at 2.000m

1 2 3 4 5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
5.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater strike at 0.40mbgl. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 13/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384774.85 N399474.29
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP306	TP	40.19m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.20	39.99		Grass over dark brown gravelly SAND. Gravel is fine to coarse subangular of brick. Occasional plastic fragments and frequent roots and rootlets (MADE GROUND)
		0.50 0.50	B ES					Dark brown very gravelly fine to coarse SAND. Gravel is fine to coarse subangular to angular of brick and concrete. Medium cobble content of brick and concrete. Occasional plastic and wood fragments (MADE GROUND)
	▼				1.00	39.19		Very stiff brown mottled grey slightly gravelly CLAY. Gravel is fine to coarse sub rounded to rounded of sandstone and quartzite (DEVENSIAN TILL)
		1.50 1.50	B D					
		3.00 - 3.10 3.00	D		3.10	37.09		End of Borehole at 3.100m

1 2 3 4 5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
5.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater strike at 1.00mbgl. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384736.94 N399457.29
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP307	TP	34.82m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.30	ES					Brown clayey sandy fine to coarse sub angular to angular GRAVEL of brick, ceramic, concrete and slate. High cobble content of stone setts, brick and concrete (MADE GROUND)
					0.50	34.32		
		0.60 0.60	B ES					Dark brown clayey sandy fine to coarse subangular to angular GRAVEL of brick and concrete. High cobble content of brick and concrete. Occasional wood fragments, boulder sized concrete and relic cables. Slight hydrocarbon odour (MADE GROUND) *...at 0.80mbgl loose steel girder*
					1.10	33.72		
		1.20 - 1.50	B					Orangish brown slightly gravelly fine SAND. Gravel is fine to coarse sub rounded to rounded of sandstone and mudstone. Occasional pockets of reddish brown mottled grey slightly gravelly sandy clay (DEVENSIAN TILL)
					2.20	32.62		
								Orangish brown gravelly fine to coarse SAND. Gravel is fine to coarse rounded of quartzite, sandstone and mudstone (DEVENSIAN TILL)
					3.70	31.12		End of Borehole at 3.700m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
5.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384690.47 N399456.64
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP308	TP	33.24m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.20	33.04		Brown sandy gravelly CLAY. Gravel is fine to medium angular of plastic and brick (MADE GROUND)
		0.80	ES					Black very sandy fine to coarse subangular to angular GRAVEL of brick slate and concrete. Occasional metal fragments and low cobble content of brick and concrete (MADE GROUND) *...at 0.40 to 0.70mbgl possible brick structure across base of pit* *...at 0.70mbgl disused plastic drainage pipe*
		1.50		HVP=20.0	1.50	31.74		Firm dark brown sandy gravelly CLAY. Gravel is fine to coarse subangular to angular of brick, concrete and slate. Low brick and sandstone block cobble content (MADE GROUND)
		3.00		HVP=40.0	3.00	30.24		
					3.10	30.14		Light grey mottled orangish brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse rounded of sandstone (DEVENSIAN TILL)
								Orangish brown slightly silty slightly gravelly fine SAND. Gravel is fine to medium subangular of sandstone and mudstone (DEVENSIAN TILL)
					3.80	29.44		End of Borehole at 3.800m

1 2 3 4 5

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
5.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 11/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384668.83 N399448.01
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP309	TP	33.33m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete (MADE GROUND)
					0.30	33.03		
		0.40	ES					Black sandy clayey fine to coarse sub angular to angular GRAVEL of brick, asphalt, clinker and slag. Medium brick cobble content. Occasional timber fragments. Hydrocarbon odour (MADE GROUND)
		0.50	B					*...at 0.30 to 2.90mbgl wall in northern face*
								...at 0.80mbgl small empty plastic Jerry can
		1.00	ES					
		1.00	PID	PID=0.0				
								In the eastern half of the trial pit made ground extends to 2.10mbgl
					2.90	30.43		
		3.00 - 3.50	B					Light brown fine silty SAND (DEVENSIAN TILL)
		3.00 - 3.50	ES					
					3.80	29.53		End of Borehole at 3.800m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
4.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Trial Pit Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 12/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384684.74 N399434.30
Project No. : 4328	Crew Name:	Equipment: 13 Ton Tracked Excavator

Location Number	Location Type	Level	Logged By	Scale	Page Number
TP310	TP	36.38m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.50 0.50 - 1.00	ES B					Brown slightly sandy fibrous material containing frequent fragments of shredded plastic (MADE GROUND)
					1.00	35.38		End of Borehole at 1.000m

Dimensions		Trench Support and Comment			Pumping Data		
Pit Length	Pit Width	Pit Stability	Shoring Used	Remarks	Date	Rate	Remarks
1.00	1.00						

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 04/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384598.67 N399393.38
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS301	WS	33.60m AoD	LR	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete (MADE GROUND)
					0.25	33.35		
		0.50	ES					Medium dense dark grey very gravelly coarse SAND. Gravel is fine to coarse subrounded to angular of concrete, slag and brick. Occasional ash and cobble of concrete (MADE GROUND)
		1.00	SPT	N=16 (1,1/2,2,6,6)				
		1.50	ES					
					2.20	31.40		
		2.50	ES					Medium dense reddish brown gravelly SAND. Gravel is fine to coarse subrounded to angular of brick, concrete and sandstone (MADE GROUND)
		3.00	SPT	N=5 (1,1/1,1,1,2)				
					3.20	30.40		
		3.50	ES					Reddish brown slightly gravelly very clayey medium SAND. Gravel is fine to medium subrounded to rounded sandstone (DEVENSIAN TILL)
		4.40	SPT	N=50 (25 for 125mm/50 for 55mm)				
		4.50	ES		4.50	29.10		Very dense reddish brown gravelly SAND. Gravel is medium angular sandstone. (CHESTER FORMATION)
					5.00	28.60		End of Borehole at 5.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	5.00	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.50 and 1.50mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 04/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384614.24 N399398.45
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS302	WS	33.60m AoD	LR	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete (MADE GROUND)
					0.30	33.30		
		0.50	ES					Medium dense dark brown slightly clayey very sandy fine to coarse subrounded to angular GRAVEL of brick and concrete. Low brick cobble content (MADE GROUND)
		1.00	SPT	N=10 (1,5/3,3,2,2)				
					1.40	32.20		
		1.50	ES					Firm brown sandy CLAY (DEVENSIAN TILL)
		1.60		HVP=20				
		1.60		HVP=30				
		2.00		HVP=25				
		2.00		HVP=30				
		2.40		HVP=35				
		2.40		HVP=40				
		2.50	ES					
		2.80		HVP=60				
		2.80		HVP=68				
		3.00	SPT	N=25 (3,4/5,6,7,7)				
		3.20		HVP=65				
		3.20		HVP=72				
		3.50	ES		3.50	30.10		End of Borehole at 3.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	3.50	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 03/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384627.12 N399408.31
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS303	WS	33.60m AoD	RM	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete (MADE GROUND)
					0.28	33.32		
		0.40	ES					Dark brown sandy fine to coarse sub angular to angular GRAVEL of brick and clinker. Hydrocarbon odour (MADE GROUND)
		1.00	SPT	N=4 (1,1/1,1,1,1)	1.00	32.60		Soft dark brown slightly gravelly sandy CLAY. Gravel is fine to coarse subangular of brick, and coal. Hydrocarbon odour (MADE GROUND)
		1.00	PID	PID=0.00				
		1.20	ES					
					1.60	32.00		Firm orangish brown mottled greyish brown slightly sandy CLAY. Hydrocarbon odour (DEVENSIAN TILL)
		1.80	ES					
		1.80		HVP=55				
		1.80		HVP=58				
		1.80		HVP=60				
		2.00	PID	PID=0.00				
								...at 2.40 to 2.70mbgl becoming soft very sandy
		2.50	D					
		2.50		HVP=12				
		2.50		HVP=14	2.70	30.90		Firm orangish brown mottled greyish brown slightly sandy gravelly CLAY. Hydrocarbon odour. Gravel comprises fine to medium subrounded sandstone (DEVENSIAN TILL)
		2.50		HVP=23				
					2.90	30.70		*...at 2.70 to 2.90mbgl becoming firm slightly sandy gravelly. Gravel fine to medium subrounded of sandstone*
		3.00	SPT	N=25 (6,5/5,6,7,7)	3.00	30.60		Medium dense reddish brown fine to medium slightly gravelly SAND. Gravel is fine to coarse subangular of sandstone. Hydrocarbon odour (WEATHERED CHESTER FORMATION)
		3.00	PID	PID=0.00				End of Borehole at 3.000m
		3.10	ES					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	3.00	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.50 and 1.50mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 04/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384612.01 N399389.02
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS304	WS	33.60m AoD	LR	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete (MADE GROUND)
					0.30	33.30		
		0.50	ES					Medium dense grey very sandy fine to coarse subangular to rounded GRAVEL of brick and concrete. Gravel comprises fine to coarse subangular to rounded brick and concrete. Occasional ash. Low brick cobble content (MADE GROUND)
					1.20	32.40		
								Firm brown sandy CLAY (DEVENSIAN TILL)
		1.40	PP	35.00				
		1.40	PP	48.00				
		1.50	ES					
		1.80	PP	45.00				
		1.80	PP	50.00				
		2.00	SPT	N=6 (1,1/1,1,2,2)				
		2.20	PP	48.00				
		2.20	PP	50.00				
		2.50	ES					
		2.60	PP	50.00				
		2.60	PP	55.00				
					2.80	30.80		
								Very dense reddish brown slightly gravelly SAND. Gravel is fine to medium subangular rounded sandstone (CHESTER FORMATION)
								...at 3.00 to 3.25mbgl becoming dark brown
		3.40	SPT	38 (10,12/38 for 210mm)				
		3.50	ES		3.50	30.10		End of Borehole at 3.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	3.50	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 03/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384626.31 N399395.73
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS305	WS	33.60m AoD	RM	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Reinforced concrete slab (MADE GROUND)
					0.30	33.30		
		0.50	ES					Dark brown sandy fine to coarse subrounded to angular GRAVEL of brick and clinker. Medium cobble content of brick (MADE GROUND)
					0.85	32.75		
		1.00	ES					Soft orangish brown mottled greyish brown slightly sandy CLAY (DEVENSIAN TILL)
		1.00	PID	PID=0.00				*...at 1.00mbgl becoming firm to stiff*
		1.50		HVP=70				
		1.50		HVP=81				
		1.50		HVP=96				
		1.80	D					
		2.00	SPT	N=16 (1,2/2,3,5,6)				
		2.00	PID	PID=0.00				*...at 2.10 to 2.55mbgl becoming slightly gravelly. Gravel fine to medium rounded of sandstone and quartzite.*
					2.55	31.05		Brown slightly clayey sandy fine to medium subrounded to rounded GRAVEL of sandstone and mudstone (DEVENSIAN TILL)
		2.90	ES		2.90	30.70		Reddish brown slightly gravelly fine to medium SAND. Gravel is fine to medium subangular of sandstone (WEATHERED CHESTER FORMATION)
		3.00	PID	PID=0.00	3.00	30.60		End of Borehole at 3.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	3.00	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 04/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384640.55 N399403.38
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS306	WS	34.60m AoD	LR	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.20	34.40		Grey reinforced concrete (MADE GROUND)
		0.50	ES					Medium dense grey sandy fine to coarse subangular to angular GRAVEL of concrete, brick and slag (MADE GROUND)
		1.00	PID	PID=0.00				
		1.50	ES					
		1.80		HVP=35	1.90	32.70		
		2.00	SPT	N=9 (1,1/2,2,2,3)				Soft brown slightly gravelly very sandy CLAY. Gravel comprises medium rounded sandstone (DEVENSIAN TILL)
		2.00	PID	PID=0.00				
		2.20		HVP=35				
		2.50	ES					*...at 2.50mbgl becoming firm*
		2.60		HVP=55				
		3.00	PID	PID=0.00				
					3.90	30.70		
		4.00	SPT	N=35 (5,7/8,8,9,10)	4.00	30.60		Dense reddish brown slightly gravelly coarse SAND. Gravel comprises medium subangular sandstone (CHESTER FORMATION)
								End of Borehole at 4.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	3.30	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 04/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384607.66 N399377.50
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS307	WS	33.60m AoD	LR	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete (MADE GROUND)
		0.40	ES		0.28	33.32		Medium dense grey clayey sandy fine to coarse sub rounded to angular GRAVEL. of concrete, slag and brick. Low cobble content of brick and concrete (MADE GROUND)
					0.50	33.10		End of Borehole at 0.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	0.50	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole terminated at 0.50mbgl due to encountering masonry structure within handpit 4. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 03/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384622.66 N399382.64
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS308	WS	33.60m AoD	RM	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete slab (MADE GROUND)
					0.25	33.35		Brick COBBLES (MADE GROUND)
					0.40	33.20		End of Borehole at 0.400m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	0.40	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Borehole was terminated at 0.40mbgl due to encountering masonry structure within handpit 4. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 03/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384622.66 N399382.64
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS308A	WS	33.60m AoD	RM	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
								Grey reinforced concrete (MADE GROUND)
					0.30	33.30		
					0.45	33.15		Slightly sandy fine to coarse sub angular to angular GRAVEL of limestone (MADE GROUND)
		0.60	ES					Dark brown sandy fine to coarse sub angular to angular GRAVEL of brick and concrete. Low brick cobble content (MADE GROUND)
		1.00	ES					
		1.00	PID	PID=0.00				
					1.85	31.75		Firm orangish brown mottled grey slightly sandy CLAY (DEVENSIAN TILL)
		2.00	ES		2.00	31.60		Medium dense brown gravelly SAND. Gravel is fine to medium subangular to subrounded of mudstone and sandstone (DEVENSIAN TILL)
		2.00	SPT	N=20 (4,5/5,5,5,5)				
		2.00	PID	PID=0.00				
					2.65	30.95		Reddish brown fine to medium slightly gravelly SAND. Gravel is fine to medium subangular of sandstone (WEATHERED CHESTER FORMATION)
		3.00	PID	PID=0.00				
		4.00	PID	PID=0.00	4.00	29.60		End of Borehole at 4.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	4.00	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was backfilled with arisings.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 03/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384638.06 N399388.17
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS309	WS	33.60m AoD	RM	1:25	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
					0.30	33.30		Grey reinforced concrete (MADE GROUND)
					0.65	32.95		Medium dense brownish grey clayey sandy fine to coarse sub rounded to angular GRAVEL. of concrete, slag and brick. Low cobble content of brick (MADE GROUND)
		0.70	ES					Firm slightly sandy reddish brown mottled grey CLAY (DEVENSIAN TILL)
		0.80	D					
		0.80		HVP=55				
		0.80		HVP=68				
		0.80		HVP=78				
		1.00	SPT	N=10 (1,1/2,2,3,3)				*...at 1.00mbgl becoming soft and sandy*
		1.00	PID	PID=0.00				
		1.20		HVP=27				
		1.20		HVP=32				
		1.20		HVP=33				
					1.80	31.80		Brown slightly clayey sandy fine to medium subrounded GRAVEL of sandstone and mudstone (DEVENSIAN TILL)
		1.90	ES					
		2.00	PID	PID=0.00				
					2.10	31.50		Stiff brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium subrounded of sandstone and mudstone (DEVENSIAN TILL)
					2.30	31.30		Very dense reddish brown fine to medium slightly gravelly SAND. Gravel is medium to fine sub angular to sub rounded of sandstone (CHESTER FORMATION)
		2.50	ES					
		3.00	SPT	50 (7,14/50 for 140mm)	3.00	30.60		End of Borehole at 3.000m
		3.00	PID	PID=0.00				

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	3.00	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpipe between 1.00 and 2.00mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 05/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384675.49 N399499.30
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS310	WS	31.72m AoD	RM	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing Depth (m)	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
		0.40	ES					Brown slightly clayey sandy fine to coarse sub angular to angular GRAVEL of brick, glass and concrete (MADE GROUND)
		1.00	SPT	N=4 (1,1/1,1,1,1)				
					1.20	30.52		
		1.30	ES					Soft light brown slightly gravelly slightly sandy CLAY. Gravel is fine to coarse rounded of sandstone and mudstone (DEVENSIAN TILL)
		1.40	D					
		1.40		HVP=18				
		1.90	D					
		1.90		HVP=34				
		2.00	SPT	N=6 (1,1/1,1,2,2)				
					2.90	28.82		
		3.00	SPT	N=5 (1,1/1,1,1,2)				Brown and Reddish brown very sandy CLAY (DEVENSIAN TILL)
					3.60	28.12		
		3.70		HVP=22				Reddish brown and grey MUDSTONE (MANCHESTER MARLS)
		4.00	SPT	N=11 (3,2/2,3,3,3)	4.00	27.72		End of Borehole at 4.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	5.00	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.50 and 1.00mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 05/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384712.61 N399444.78
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS311	WS	35.04m AoD	RM	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.10	34.94		Light brown slightly clayey gravelly SAND. Gravel is fine to coarse angular to rounded of brick, limestone and sandstone (MADE GROUND)
	▼	0.40 0.50	ES PID	PID=0.00				Medium dense black sandy fine to coarse subangular to angular GRAVEL of brick and concrete. Medium cobble content of brick. Hydrocarbon odour. (MADE GROUND)
		1.20	SPT	N=22 (8,10/7,6,5,4)				
					1.60	33.44		Medium dense brown gravelly medium to coarse SAND. Gravel is fine to medium rounded of sandstone. (DEVENSIAN TILL)
		2.00	SPT	N=11 (5,6/3,4,2,2)				
		3.00	SPT	N=11 (4,1/3,2,4,2)				
		4.00	SPT	N=11 (2,4/2,2,4,3)				
					5.00	30.04		End of Borehole at 5.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	1.21	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater strike at 0.50mbgl. 3. Upon completion borehole was installed with a 50mm diameter standpipe with a response zone between 0.50 and 1.50mbgl.

Percussion Drilling Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 05/04/2023
Location: Manchester	Contractor: PB Drilling Ltd	Co-ords: E384709.02 N399502.71
Project No. : 4328	Crew Name: JG, SG	Drilling Equipment: Premier 110

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
WS312	WS	31.87m AoD	RM	1:30	Sheet 1 of 1

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.60	ES					Loose brown sandy fine to coarse angular GRAVEL of brick, plastic and concrete (MADE GROUND)
		1.00	SPT	N=7 (2,2/3,1,2,1)				*...at 0.70 to 1.40mbgl becoming dark brown high brick cobble content. No plastic*
		1.40	ES		1.40	30.47		Very soft light brown mottled orangish brown slightly sandy CLAY (DEVENSIAN TILL)
		1.50	D					*...at 1.60mbgl becoming firm*
		2.00	SPT	N=11 (1,2/3,3,2,3)				*...at 1.90mbgl becoming very soft*
					2.70	29.17		*...at 2.50 to 2.70mbgl Pocket of slightly gravelly very clayey sand. Gravel fine to medium angular of sandstone*
		3.00	D					Firm orangish brown sandy CLAY (DEVENSIAN TILL)
		3.00	SPT	N=9 (1,2/3,2,2,2)				*...at 2.90 to 3.30mbgl clayey sand pocket*
					3.50	28.37		Firm to stiff brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium subangular of sandstone (DEVENSIAN TILL)
		4.00	D					*...at 3.50 to 3.70mbgl becoming stiff*
		4.00	SPT	N=38 (3,4/5,8,11,14)	4.10	27.77		Dense brown sandy slightly gravelly silty SAND. Gravel is fine rounded to subangular of sandstone, siltstone and mudstone (DEVENSIAN TILL)
					4.70	27.17		Reddish brown and grey MUDSTONE (MANCHESTER MARLS)
		5.00	SPT	N=31 (4,6/7,7,8,9)	5.00	26.87		End of Borehole at 5.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation			
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation
								0.00	5.00	90	

Remarks

1. Location CAT scanned before breaking ground 2. Groundwater was not observed. 3. Upon completion borehole was installed with a 50mm diameter standpipe between 0.50 and 1.00mbgl

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 28/09/2023
Location: Manchester	Contractor: MT Geoservices	Co-ords: E384697.40 N399411.32
Project No. : 4328	Crew Name: M.E.	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH401	RC	43.07m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.20-1.00	B					0.20	42.87		Brown slightly clayey sandy fine to coarse subangular to angular GRAVEL of brick (MADE GROUND)
		1.00	ES				(4)				Black clayey gravelly organic material suspected wood mulch. Gravel is fine to coarse sub angular to angular of glass, clinker and plastic. Ash present. Hydrocarbon odour. (MADE GROUND)
		2.50-3.00 2.60	B ES				(6)	2.50	40.57		Soft to firm black sandy very gravelly CLAY. Gravel is fine to coarse subangular to angular of brick, glass, clinker, coal, plastic. Rare metal fragments. Low brick cobble content. Hydrocarbon odour. (MADE GROUND)
								3.40	39.67		Firm brown sandy slightly gravelly CLAY. Gravel is medium to coarse subangular to angular of brick
		4.00 4.10-4.45	ES B				(10)	3.70 4.10 4.45	39.37 38.97 38.62		Black sandy fine to coarse subangular to angular GRAVEL of brick, slag and clinker (MADE GROUND) Orangish brown slightly gravelly silty fine to medium SAND. Gravel is rounded of sandstone and siltstone. (MADE GROUND)
		6.50 6.50	D ES				(9)				Firm brown slightly sandy gravelly CLAY. Gravel fine to coarse sub angular to angular of brick, slate and ceramic. Rare clinker and rounded fine to medium natural lithologies (MADE GROUND) *...at 6.50mbgl shear vane Cu = 40kPa, Cr = 12 kPa*
		8.00 8.00	D ES				(25)	7.80	35.27		Firm brown slightly gravelly CLAY. Gravel is fine to medium sub rounded to subangular of coal and sandstone. (MADE GROUND - REWORKED CLAY)
							(21)	9.20	33.87		Medium dense reddish brown fine to medium SAND. *...at 9.60 to 10.50 no recovery*

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 11.50 and 16.50mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 28/09/2023
Location: Manchester	Contractor: MT Geoservices	Co-ords: E384697.40 N399411.32
Project No. : 4328	Crew Name: M.E.	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH401	RC	43.07m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Medium dense reddish brown fine to medium SAND.
							(36)	10.50	32.57		Brown SAND and GRAVEL. Gravel fine to coarse well rounded to sub rounded of various lithologies.
											...at 11.55 to 12.00mbgl no recovery
		12.00 12.00-13.20	B ES				(15)				
								13.20	29.87		Medium dense to dense orangish brown medium to coarse slightly gravelly SAND. Gravel is fine subangular to rounded of sandstone.
							(33)	13.50	29.57		Dense orange brown medium to coarse slightly gravelly silty SAND. Gravel is fine subangular to rounded of sandstone.
							(50)	15.00	28.07		Very dense brown slightly clayey gravelly fine to coarse SAND. Gravel is sub rounded to rounded of sandstone and quartz. Medium cobble content (OPENHOLE RETURNS)
		19.00 - 20.50		83	53	53		19.30	23.77		Extremely weak reddish brown MARL weathered to hard reddish brown CLAY (MANCHESTER MARLS FORMATION)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 11.50 and 16.50mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 28/09/2023
Location: Manchester	Contractor: MT Geoservices	Co-ords: E384697.40 N399411.32
Project No. : 4328	Crew Name: M.E.	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH401	RC	43.07m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								20.50	22.57		Extremely weak reddish brown MARL weathered to hard reddish brown CLAY (MANCHESTER MARLS FORMATION)
											End of Borehole at 20.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 11.50 and 16.50mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 28/09/2023
Location: Manchester	Contractor: MT Geoservices	Co-ords: E384709.44 N399413.82
Project No. : 4328	Crew Name: M.E.	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH402	RC	43.28m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.15	43.12		Brown clayey sandy medium to coarse GRAVEL of brick (MADE GROUND)
		0.30	B								
		0.30	ES								
								1.00	42.28		Black clayey gravelly organic material suspected wood mulch. Gravel is fine to coarse sub angular to angular of glass, slag, clinker and plastic. Ash present. Frequent plastic sheets. Hydrocarbon odour (MADE GROUND)
		1.50	D				(4)				*...at 0.15 to 1.00mbgl occasional pockets of clay and hydrocarbon odour throughout*
		1.50	ES								Soft to firm brown very sandy gravelly CLAY. Gravel fine to coarse subangular to angular of brick, glass, limestone. Occasional rounded fine to medium quartzite and small branches (MADE GROUND)
											...at 2.30 to 3.00mbgl no recovery
							(9)				
								3.40	39.88		Loose black slightly sandy GRAVEL. Gravel is fine to coarse sub rounded to angular of slag and clinker. (MADE GROUND)
		3.70	ES								*...at 3.80 to 4.50mbgl no recovery*
							(7)				
											...at 4.90 to 5.10mbgl light brown silty fine sand
								5.10	38.17		Very soft to soft light brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular to angular of brick. Occassional glass fragments.
		5.30	B								
		5.30	ES								*...at 5.60 to 5.80mbgl soft brown sandy very gravelly CLAY. Gravel is fine to coarse subangular to angular of brick, slate and clinker.*
							(4)				*...at 5.80 to 6.00mbgl no recovery*
											...at 6.50mbgl shear vane Cu = 25kPa, Cr = 15 kPa
		6.80	ES								*...at 6.70 to 7.00mbgl dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to angular of brick and ceramic.*
							(5)				*...at 7.50 to 9.00mbgl contains clinker and coal*
		8.00-8.50	B								*...at 8.00mbgl shear vane Cu = 25kPa, Cr = 8kPa*
											...at 8.70 to 9.00mbgl no recovery
							(13)				
								9.50	33.78		Firm brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular
		10.00	B								

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was backfilled with arisings.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 28/09/2023
Location: Manchester	Contractor: MT Geoservices	Co-ords: E384709.44 N399413.82
Project No. : 4328	Crew Name: M.E.	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH402	RC	43.28m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /Fl	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		10.00 10.00	B ES					10.20	33.08		Firm brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular to rounded of quartzite, coal, sandstone and siltstone (DEVENSIAN TILL)
		10.50 10.50-12.00 10.50-12.00	B B ES				(28)				*...at 9.50 to 9.60mbgl reddish brown medium fine to medium SAND.* *...at 10.00mbgl Cu = 45kPa, Cr = 18kPa*
											Medium dense orangish brown slightly gravelly silty fine to medium SAND. Gravel is medium to coarse rounded of sandstone quartzite and siltstone.
							(26)	12.00	31.28		Medium dense orangish brown slightly gravelly medium to coarse SAND. Gravel is fine to coarse rounded of sandstone and quartzite. Low cobble content.
							(26)				
								15.00	28.28		End of Borehole at 15.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was backfilled with arisings.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 18/09/2023
Location: Manchester	Contractor: MT Geoservices	Co-ords: E384717.73 N399423.13
Project No. : 4328	Crew Name: M.E.	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH403	RC	43.03m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		0.00-3.00	B					0.20	42.83		Brown clayey sandy medium to coarse subangular to angular GRAVEL of brick (MADE GROUND)
		0.50	ES								Very loose brown clayey gravelly sandy wood mulch and organic matter. Gravel is fine to coarse subangular to angular of brick, glass, plastic and ceramic. Occasional metal fragments (MADE GROUND)
							(3)				
								2.50	40.53		Loose clayey gravelly organic material suspected wood mulch. Gravel is fine to coarse sub angular to angular of glass and plastic. Ash present. Hydrocarbon odour. (MADE GROUND)
							(7)				
		3.50	B					3.50	39.53		Loose black slightly clayey gravelly SAND. Contains ash. Gravel is fine to coarse sub angular of brick, plastic and glass. Frequent metal and non organic fibres. Hydrocarbon odour (MADE GROUND)
		3.50-5.30	ES								
							(5)				
		5.00	ES								
								5.30	37.73		Firm brown sandy gravelly CLAY. Gravel is fine to coarse rounded to angular of brick, mudstone and sandstone. Occasional sand bands and brick cobble (MADE GROUND)
		6.00	D				(12)				
		6.00	ES								
											...at 6.90 to 7.50mbgl becoming slightly gravelly sandy
		7.20	D								
							(12)				*...at 7.50 to 9.00mbgl no recovery besides a small amount of slag gravel and cobbles*
								9.00	34.03		Soft light brown with black staining slightly gravelly slightly sandy CLAY. Gravel is fine to medium sub angular of brick. Slight hydrocarbon odour (MADE GROUND)
							(6)				
		9.90	ES								

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 11.50 and 16.50mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 18/09/2023
Location: Manchester	Contractor: MT Geoservices	Co-ords: E384717.73 N399423.13
Project No. : 4328	Crew Name: M.E.	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH403	RC	43.03m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		10.20-12.00	B								Soft light brown with black staining slightly gravelly slightly sandy CLAY. Gravel is fine to medium sub angular of brick. Slight hydrocarbon odour (MADE GROUND)
		10.50	ES				(10)	10.50	32.53		*...at 10.2mbgl to 10.50mbgl no recovery*
							(15)				Medium dense brown gravelly medium to coarse SAND. Gravel fine to coarse rounded of sandstone and quartzite.
							(50)				*...at 12.00mbgl becoming dense to very dense*
							(35)				
							(40)				
							(51)	15.00	28.03		Very dense slightly gravelly silty fine to medium SAND. Gravel medium to coarse of sandstone.
		16.00	ES								
							(50)	16.50	26.53		Stiff brown slightly sandy slightly gravelly CLAY. Gravel is medium rounded of mudstone and quartzite
		17.50	B								
							(50)	18.00	25.03		Very dense brown slightly clayey gravelly fine to medium SAND. Gravel is fine to medium rounded of quartzite, sandstone and mudstone.
							(50)	19.50	23.53		Extremely weak highly weathered reddish brown MUDSTONE. Almost completely

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 11.50 and 16.50mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 18/09/2023
Location: Manchester	Contractor: MT Geoservices	Co-ords: E384717.73 N399423.13
Project No. : 4328	Crew Name: M.E.	Drilling Equipment: Beretta T44

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH403	RC	43.03m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								21.00	22.03		Extremely weak highly weathered reddish brown MUDSTONE. Almost completely weathered to a very stiff clay (MANCHESTER MARLS)
											End of Borehole at 21.000m

21 22 23 24 25 26 27 28 29 30

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 11.50 and 16.50mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384638.99 N399388.87
Project No. : 4328	Crew Name: A.P, D.C.	Drilling Equipment: Comacchio 305

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH501	RC	33.59m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.25	33.34		Concrete (MADE GROUND)
								0.60	32.99		Red brick cobbles (MADE GROUND - SUSPECTED RELIC STRUCTURE)
		0.80	ES								Firm light brown slightly gravelly CLAY. Gravel is fine to coarse subangular to angular of brick and ceramic. Low brick cobble content (MADE GROUND)
								1.20	32.39		Stiff brown mottled grey slightly sandy CLAY (DEVENSIAN TILL)
		2.00	ES								*...at 1.80 to 2.90mbgl becoming soft sandy slightly gravelly*
		3.00	ES					2.90	30.69		Reddish brown fine to medium SAND (CHESTER FORMATION)
								3.20	30.39		Reddish brown SANDSTONE (CHESTER FORMATION - OPENHOLE RETURNS)

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.50 and 15.0mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384638.99 N399388.87
Project No. : 4328	Crew Name: A.P, D.C.	Drilling Equipment: Comacchio 305

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH501	RC	33.59m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown SANDSTONE (CHESTER FORMATION - OPENHOLE RETURNS)
								13.00	20.59		
		13.00 - 14.50	0 5 8	45	18	0					Extremely weak reddish brown medium to coarse grained SANDSTONE. Joints are horizontal closely spaced planar smooth. Largely non intact and recovered as sand and gravel (CHESTER FORMATION)
?								15.00	18.59		
		14.50 - 16.00		0	0	0					Extremely weak reddish brown MUDSTONE (MANCHESTER MARLS)
								16.00	17.59		End of Borehole at 15.000m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.50 and 15.0mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384599.85 N399394.37
Project No. : 4328	Crew Name: S.A, D.M.	Drilling Equipment: Comacchio 305

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH502	RC	33.59m AoD	RM	1:50	Sheet 1 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.08	33.51		Concrete (MADE GROUND)
		1.00	ES								Brown clayey sandy fine to coarse sub rounded to angular GRAVEL of limestone, brick and clinker. Medium cobble content of bricks and paving cobbles (MADE GROUND)
											...at 1.20 to 1.80mbgl hydrocarbon odour
								1.80	31.79		Concrete obstruction - possible relic slab (MADE GROUND)
		2.60	ES					2.50	31.09		Soft to firm light brown slightly sandy gravelly CLAY. Gravel is fine to coarse sub rounded to sub angular of brick and sandstone (MADE GROUND)
								3.00	30.59		Light brown sLightly clayey sightly silty fine to medium SAND (DEVENSIAN TILL)
								3.30	30.29		Firm to stiff light brown slightly sandy CLAY (DEVENSIAN TILL)
		3.80	ES					3.60	29.99		Brown slightly clayey slightly sandy fine to medium rounded GRAVEL of sandstone, mudstone and quartzite (DEVENSIAN TILL)
		4.50	ES					4.30	29.29		Reddish brown gravelly SAND. Gravel is medium to coarse rounded of quartzite and sandstone (CHESTER FORMATION)
								4.50	29.09		Reddish brown SANDSTONE (CHESTER FORMATION - OPENHOLE RETURNS)
		10.00-11.50	B					10.00	23.59		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 5.50 and 18.30mbgl and a 32mm diameter standpipe with a response between 19.30 and 20.30mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384599.85 N399394.37
Project No. : 4328	Crew Name: S.A, D.M.	Drilling Equipment: Comacchio 305

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH502	RC	33.59m AoD	RM	1:50	Sheet 2 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
											Reddish brown medium to coarse SAND (CHESTER FORMATION)
		11.00 - 12.50		53	0	0		11.50	22.09		Reddish brown SANDSTONE (CHESTER FORMATION - RECOVERED AS SAND IN DRILLING FLUSH)
		12.50 - 14.00		0	0	0					
		14.00 - 15.50		0	0	0					
		15.50 - 17.00		0	0	0					
								17.50	16.09		Reddish brown medium to coarse SAND with extremely weak sandstone and mudstone lithorelicts (CHESTER FORMATION)
		17.50 - 19.00		87	47	42		18.30	15.29		Extremely weak reddish brown MUDSTONE. Completely weathered to clay in places. Discontinuities are planar smooth discoloured grey (MANCHESTER MARLS)
		19.00 - 20.50		100	100	80					

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 5.50 and 18.30mbgl and a 32mm diameter standpipe with a response between 19.30 and 20.30mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384599.85 N399394.37
Project No. : 4328	Crew Name: S.A, D.M.	Drilling Equipment: Comacchio 305

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH502	RC	33.59m AoD	RM	1:50	Sheet 3 of 3

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								20.30	13.29		Extremely weak reddish brown MUDSTONE. Completely weathered to clay in places. Discontinuities are planar smooth discoloured grey (MANCHESTER MARLS)
											End of Borehole at 20.300m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 5.50 and 18.30mbgl and a 32mm diameter standpipe with a response between 19.30 and 20.30mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384612.61 N399439.30
Project No. : 4328	Crew Name: A.P, D.C.	Drilling Equipment: Comacchio 305

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH503	RC	31.65m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.20	31.45		Asphalt (MADE GROUND)
		0.50	ES					0.50	31.15		Brown slightly clayey sandy fine to coarse sub angular to angular GRAVEL of brick and concrete (MADE GROUND)
								0.60	31.05		Asphalt (MADE GROUND)
								0.80	30.85		Brown slightly clayey sandy fine to coarse sub angular to angular GRAVEL of brick, glass, rubber and concrete. Medium cobble content of bricks (MADE GROUND)
		1.20	ES								
								1.40	30.25		Soft dark brown slightly sandy gravelly CLAY. Gravel is fine to coarse subangular to angular of brick and clinker (MADE GROUND)
		2.00	ES								
								2.60	29.05		Soft black slightly gravelly organic CLAY. Gravel fine to coarse angular of ceramic (MADE GROUND)
		3.00	ES								Soft light brown mottled orangish brown and reddish brown slightly sandy slightly gravelly CLAY. Gravel is fine to medium rounded of quartzite and sandstone (DEVENSIAN TILL)
		4.00	ES					3.90	27.75		Dense reddish brown fine to medium SAND (CHESTER FORMATION)
								4.20	27.45		Reddish brown SANDSTONE (CHESTER FORMATION - OPENHOLE RETURNS)
		4.20 - 7.50									
		7.50 - 11.00									
								10.00	21.65		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 5.00 and 10.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384612.61 N399439.30
Project No. : 4328	Crew Name: A.P, D.C.	Drilling Equipment: Comacchio 305

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH503	RC	31.65m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								11.00	20.65		Reddish brown MUDSTONE (MANCHESTER MARLS - OPENHOLE RETURNS)
		11.00 - 12.50		100	65	59	87mm				Extremely weak reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
								12.50	19.15		End of Borehole at 12.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 5.00 and 10.00mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E3846644.07 N399415.75
Project No. : 4328	Crew Name: S.A, D.M.	Drilling Equipment: Fraste PLC

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH504	RC	34.04m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.20	33.84		Asphalt (MADE GROUND)
		0.50	ES								Dark brown slightly clayey sandy fine to coarse subangular to angular GRAVEL of brick, sandstone, clinker, limestone, slate and asphalt. Medium cobble content of brick (MADE GROUND)
		1.50	ES					1.40	32.64		Dark brown slightly sandy slightly gravelly CLAY. Gravel is fine to coarse subangular to angular of clinker, glass and brick. Hydrocarbon odour. (MADE GROUND)
		2.00	ES					1.90	32.14		Black very sandy CLAY. Strong hydrocarbon odour oily sheen (MADE GROUND)
								2.40	31.64		Firm light brown CLAY. Slight hydrocarbon odour. (DEVENSIAN TILL)
								2.90	31.14		Soft to firm light brown slightly gravelly sandy CLAY. Gravel is medium to coarse angular to sub rounded limestone and sandstone (DEVENSIAN TILL)
								3.40	30.64		*...at 3.10 to 3.30mbgl black bands and oily sheen observed*
		3.40 - 10.00						3.50	30.54		Reddish brown fine to medium SAND (CHESTER FORMATION)
											Reddish brown SANDSTONE (CHESTER FORMATION)
								10.00	24.04		

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.50 and 11.95mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E3846644.07 N399415.75
Project No. : 4328	Crew Name: S.A, D.M.	Drilling Equipment: Fraste PLC

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH504	RC	34.04m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		10.00 - 11.50		47	0	0					Reddish brown slightly gravelly medium to coarse SAND. Gravel is well rounded of quartzite (CHESTER FORMATION)
?		11.50 - 13.00		77	63	63		11.95	22.09		Reddish brown MUDSTONE (MANCHESTER MARLS FORMATION)
		13.00 - 14.50		20	0	0		14.50	19.54		End of Borehole at 14.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.50 and 11.95mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384588.94 N399458.10
Project No. : 4328	Crew Name: S.A, D.M.	Drilling Equipment: Fraste PLC

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH505	RC	31.41m AoD	RM	1:50	Sheet 1 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
								0.10	31.31		Grey sandy fine to coarse subangular to angular limestone GRAVEL (MADE GROUND)
								0.40	31.01		
		0.60	ES					0.55	30.86		Reddish brown gravelly SAND. Gravel is fine to coarse subangular to angular of brick, sandstone and asphalt (MADE GROUND)
											Asphalt (MADE GROUND)
											Brown very sandy fine to coarse rounded to angular GRAVEL of brick, sandstone quartzite limestone and concrete (MADE GROUND)
		2.10	ES					2.00	29.41		*...at 1.20 to 1.50mbgl concrete obstruction*
											Reddish brown fine to medium SAND (CHESTER FORMATION)
								3.65	27.76		Reddish brown SANDSTONE. (CHESTER FORMATION - OPENHOLE RETURNS)
		4.20 - 8.50									
		8.50 - 10.00		33	0	0					

1 2 3 4 5 6 7 8 9 10

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.50 and 11.80mbgl.

Rotary Core Log

Project Name: Plots NT02-NT04	Client: FEC	Date: 14/11/2023
Location: Manchester	Contractor: Central Alliance	Co-ords: E384588.94 N399458.10
Project No. : 4328	Crew Name: S.A, D.M.	Drilling Equipment: Fraste PLC

Borehole Number	Hole Type	Level	Logged By	Scale	Page Number
RBH505	RC	31.41m AoD	RM	1:50	Sheet 2 of 2

Well	Water	Depth (m)	Type /FI	Coring TCR	Coring SCR	Coring RQD	Diameter Recovery (SPT)	Depth (m)	Level (m)	Legend	Stratum Description
		10.00 - 11.50		100	0	0					Reddish brown SANDSTONE. (CHESTER FORMATION - OPENHOLE RETURNS)
		11.50 - 13.00		88	45	45		11.80	19.61		Reddish brown MUDSTONE (MANCHESTER MARLS)
		13.00 - 14.50		95	89	85		14.50	16.91		End of Borehole at 14.500m

Hole Diameter		Casing Diameter		Chiselling				Inclination and Orientation				Drilling Flush					
Depth Base	Diameter	Depth Base	Diameter	Depth Top	Depth Base	Duration	Tool	Depth Top	Depth Base	Inclination	Orientation	Depth Top	Depth Base	Type	Colour	Min (%)	Max (%)

Remarks

1. Location CAT scanned before breaking ground 2. Water strikes not recorded due to drilling with water flush 3. Upon completion borehole was installed was a 50mm diameter standpipe with a response zone between 4.50 and 11.80mbgl.

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX C – CHEMICAL TESTING RESULTS

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/07379
Issue Number: 1 **Date:** 08 August, 2022

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-NT04
Project Ref: 4328
Order No: 1781
Date Samples Received: 26/07/22
Date Instructions Received: 28/07/22
Date Analysis Completed: 08/08/22

Approved by:



Richard Wong
Client Manager

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
% Stones >10mm$_A$	<0.1	<0.1	5.2	20.6	3.5	36.8	22.2	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.16	9.56	6.78	8.09	8.08	8.15	8.02	pH	0.01	A-T-031s
Electrical conductivity @ 20degC$_D$	-	1590	-	-	-	-	-	µs/cm	10	A-T-037s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	165	485	27	16	34	58	54	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	11	<1	<1	2	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0032	0.1258	0.1221	0.0612	0.0556	0.0500	0.1272	N/A	0.0003	A-T-032 FOC
Antimony$_D$	<5	6	1050	14	35	29	19	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	<1	28	126	10	16	19	35	mg/kg	1	A-T-024s
Barium$_D$	84	429	598	322	317	303	317	mg/kg	1	A-T-024s
Beryllium$_D$	0.7	1.4	1.9	0.7	1.3	0.8	1.2	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	2.1	<1.0	1.8	<1.0	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	0.9	4.3	11.3	2.9	2.2	1.4	2.0	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	10	178	13800	669	264	313	226	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	22	34	76	46	28	16	19	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	22	34	76	46	28	16	19	mg/kg	1	Calc
Lead$_D$$^{M\#}$	9	313	18100	394	520	472	906	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	0.39	5.68	1.47	0.66	1.08	3.12	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1	6	12	7	2	3	4	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	18	51	100	59	41	20	30	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	22	45	177	34	37	24	33	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	56	186	3980	934	758	241	230	mg/kg	5	A-T-024s
Redox Potential (water soluble)$_D$	-	133	-	-	-	-	-	mV		Probe
TAME$_A$	-	<0.1	-	-	-	-	-	mg/kg	0.1	A-T-022s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	*	-	-	-	-	-	-			A-T-001
pH (leachable)$_A$$^{\#}$	8.55	-	-	-	-	-	-	pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	59.39	-	-	-	-	-	-	mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	16.2	-	-	-	-	-	-	mg/l	2	A-T-032w
Antimony (leachable)$_A$	1	-	-	-	-	-	-	µg/l	1	A-T-025w
Arsenic (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Boron (leachable)$_A$	63	-	-	-	-	-	-	µg/l	10	A-T-025w

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
Barium (leachable)$_A$	17	-	-	-	-	-	-	µg/l	1	A-T-025w
Beryllium (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Cadmium (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Copper (leachable)$_A$	8	-	-	-	-	-	-	µg/l	4	A-T-025w
Chromium (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	<0.05	-	-	-	-	-	-	mg/l	0.05	A-T-040w
Chromium (trivalent)	<0.05	-	-	-	-	-	-	mg/l	0.05	Calc
Lead (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Mercury (leachable)$_A$	<0.1	-	-	-	-	-	-	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Nickel (leachable)$_A$	<2	-	-	-	-	-	-	µg/l	2	A-T-025w
Selenium (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Vanadium (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Zinc (leachable)$_A$	5	-	-	-	-	-	-	µg/l	2	A-T-025w
1,2,4-Trimethylbenzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
Styrene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	Chrysotile	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	Loose Fibres	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.06	0.03	0.13	0.20	0.06	0.73	0.51	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	0.04	0.25	<0.01	0.30	0.24	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	0.09	0.22	0.65	0.11	1.78	1.61	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	0.31	0.89	1.07	0.25	3.35	4.46	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	0.44	1.07	2.11	0.26	2.63	3.12	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	0.44	1.36	1.76	0.27	2.68	3.34	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	0.26	0.65	2.17	0.15	1.19	1.37	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	0.16	0.49	0.59	0.09	0.95	1.19	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	0.37	1.33	1.24	0.28	3.48	4.64	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	0.06	0.13	0.36	<0.04	0.30	0.35	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	0.48	2.99	2.52	0.61	9.15	13.6	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.02	0.02	0.10	0.15	0.04	1.01	0.65	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	0.27	0.77	2.26	0.17	1.42	1.69	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.15	0.06	0.05	0.08	0.07	1.76	0.21	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.07	0.35	2.05	1.24	0.44	7.66	7.05	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	0.52	2.62	2.29	0.59	8.59	12.6	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	0.30	3.86	14.9	18.9	3.39	47	56.6	mg/kg	0.01	A-T-019s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	1.53	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	0.24	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	0.28	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	0.41	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	0.20	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	0.23	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	0.08	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	0.08	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	0.39	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	<0.02	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	2.17	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	0.59	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	0.10	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	0.55	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	0.15	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	2.11	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	9.11	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	<0.2	-	-	-	-	-	mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	<0.2	-	-	-	-	-	mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	<0.2	-	-	-	-	-	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	<0.2	-	-	-	-	-	mg/kg	0.2	A-T-050s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	136	<100	-	-	-	457	-	µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	-	-	-	615	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	-	-	-	<500	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	-	-	-	463	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
n-Dioctylphthalate$_A$	<500	<500	-	-	-	<500	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	<100	-	-	-	<100	-	µg/kg	100	A-T-052s
Perylene$_A$	<100	204	-	-	-	1430	-	µg/kg	100	A-T-052s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
SVOC+TICS (UKWIR)										
SVOC TICs (Tentatively Identified Compounds)$_A$	-	Appended	-	-	-	-	-			A-T-052s
Acenaphthylene$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s
Acenaphthene$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s
Anthracene$_A$	-	151	-	-	-	-	-	µg/kg	100	A-T-052s
Benzo(a)anthracene$_A$	-	630	-	-	-	-	-	µg/kg	100	A-T-052s
Benzo(b)fluoranthene$_A$	-	1050	-	-	-	-	-	µg/kg	100	A-T-052s
Benzo(k)fluoranthene$_A$	-	273	-	-	-	-	-	µg/kg	100	A-T-052s
Benzo(a)pyrene$_A$	-	968	-	-	-	-	-	µg/kg	100	A-T-052s
Benzo(ghi)perylene$_A$	-	548	-	-	-	-	-	µg/kg	100	A-T-052s
Chrysene$_A$	-	718	-	-	-	-	-	µg/kg	100	A-T-052s
Fluoranthene$_A$	-	978	-	-	-	-	-	µg/kg	100	A-T-052s
Fluorene$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s
Indeno(1,2,3-cd)pyrene$_A$	-	490	-	-	-	-	-	µg/kg	100	A-T-052s
Phenanthrene$_A$	-	692	-	-	-	-	-	µg/kg	100	A-T-052s
Pyrene$_A$	-	1070	-	-	-	-	-	µg/kg	100	A-T-052s
Naphthalene$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s
Dibenzo(ah)anthracene$_A$	-	133	-	-	-	-	-	µg/kg	100	A-T-052s
Cresol & Chlorinated Phenol Total$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s
Phenols Total (from SVOC)$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s
SVOC Total (excl. PAH/Phenols/Cresols and Chlorophenols)$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s
SVOC Total (excl. PAH/Phenols/Cresols/Chlorophenols/Ethers/Nitrobenzene)$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s
Ethers Total (from SVOC)$_A$	-	<100	-	-	-	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10	-	-	-	<10	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5	-	-	-	<5	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5	-	-	-	<5	-	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2	-	-	-	<2	-	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	30	-	-	-	<1	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10	-	-	-	<10	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3	-	-	-	<3	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s

Envirolab Job Number: 22/07379 **Client Project Name: Plots NT02-NT04**

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
Chlorobenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	-	-	-	<2	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	-	-	-	<2	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	-	-	-	<3	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	-	-	-	<1	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	-	-	-	<3	-	µg/kg	3	A-T-006s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
VOC+TICS (UKWIR)										
VOC Total (excl. BTEX)$_A$	-	30	-	-	-	-	-	µg/kg	10	A-T-006s
BTEX Total (from VOC)$_A$	-	<1	-	-	-	-	-	µg/kg	1	A-T-006s
VOC TICs$_A$	-	None detected	-	-	-	-	-			A-T-006s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
TPH CWG (UKWIR) with Clean Up										
Total Aliphatics$_{A}$	-	29	-	-	-	-	-	mg/kg	1	A-T-055s
EPH Total Ali & Aro (>C10-C16)$_{A}^{\#}$	-	8	-	-	-	-	-	mg/kg	1	A-T-055s
EPH Total Ali & Aro (>C8-C10)$_{A}^{\#}$	-	3	-	-	-	-	-	mg/kg	1	A-T-055s
EPH Total Ali & Aro (>C16-C35)$_{A}^{\#}$	-	71	-	-	-	-	-	mg/kg	1	A-T-055s
Total Aromatics$_{A}$	-	54	-	-	-	-	-	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C35)$_{A}$	-	83	-	-	-	-	-	mg/kg	1	A-T-055s
BTEX and MTBE Total$_{A}$	-	<0.01	-	-	-	-	-	mg/kg	0.01	A-T-022s
VPH total (>C5-C8)$_{A}^{\#}$	-	<0.01	-	-	-	-	-	mg/kg	0.01	A-T-022s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	<10	-	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	29	-	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	207	-	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	277	-	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	434	-	-	-	-	-	-	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	159	-	-	-	-	-	-	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	1106	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C5-C7 (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	16	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	72	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	299	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	265	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	12	-	-	-	-	-	-	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	766	-	-	-	-	-	-	µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C44) (leachable)$_A$	1872	-	-	-	-	-	-	µg/l	20	A-T-055w
BTEX - Benzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
MTBE (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	102	-	-	-	-	-	-	µg/l	20	A-T-055w

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS202	WS203	WS209	WS208	WS211	WS210	WS210			
Depth to Top	1.50	0.50	0.40	0.40	0.30	0.50	1.30			
Depth To Bottom										
Date Sampled	21-Jul-22	21-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	6	4AB	4AE	6ABE	5ABE	4ABE	4ABE			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	-	<10	-	<1	-	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	-	<10	-	<1	-	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	2	-	<10	-	2	-	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	3	-	16	-	4	-	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	5	24	-	462	-	60	-	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	1	5	-	132	-	35	-	mg/kg	1	A-T-055s
Total Aliphatics$_A$	6	34	-	610	-	102	-	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	3	-	18	-	1	-	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	2	1	-	<10	-	10	-	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	6	4	-	62	-	42	-	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	4	8	-	298	-	150	-	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	5	38	-	956	-	399	-	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<1	2	-	63	-	16	-	mg/kg	1	A-T-055s
Total Aromatics$_A$	16	56	-	1390	-	619	-	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	22	90	-	2010	-	719	-	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	-	<0.01	-	<0.01	-	mg/kg	0.01	A-T-022s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
% Stones >10mm$_A$	6.0							% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	9.76							pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	120							mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1							mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2							mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0032							N/A	0.0003	A-T-032 FOC
Antimony$_D$	<5							mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	3							mg/kg	1	A-T-024s
Barium$_D$	58							mg/kg	1	A-T-024s
Beryllium$_D$	0.8							mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0							mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	0.7							mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	12							mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	11							mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1							mg/kg	1	A-T-040s
Chromium (trivalent)	11							mg/kg	1	Calc
Lead$_D$$^{M\#}$	14							mg/kg	1	A-T-024s
Mercury$_D$	<0.17							mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1							mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	12							mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1							mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	15							mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	26							mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	*									A-T-001
pH (leachable)$_A$$^{\#}$	11.14							pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	80.98							mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	50.3							mg/l	2	A-T-032w
Antimony (leachable)$_A$	1							µg/l	1	A-T-025w
Arsenic (leachable)$_A$	5							µg/l	1	A-T-025w
Boron (leachable)$_A$	69							µg/l	10	A-T-025w
Barium (leachable)$_A$	4							µg/l	1	A-T-025w
Beryllium (leachable)$_A$	<1							µg/l	1	A-T-025w
Cadmium (leachable)$_A$	<1							µg/l	1	A-T-025w

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
Copper (leachable)$_A$	34							µg/l	4	A-T-025w
Chromium (leachable)$_A$	3							µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	<0.05							mg/l	0.05	A-T-040w
Chromium (trivalent)	<0.05							mg/l	0.05	Calc
Lead (leachable)$_A$	<1							µg/l	1	A-T-025w
Mercury (leachable)$_A$	<0.1							µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	24							µg/l	1	A-T-025w
Nickel (leachable)$_A$	5							µg/l	2	A-T-025w
Selenium (leachable)$_A$	4							µg/l	1	A-T-025w
Vanadium (leachable)$_A$	14							µg/l	1	A-T-025w
Zinc (leachable)$_A$	2							µg/l	2	A-T-025w
1,2,4-Trimethylbenzene (leachable)$_A$	13							µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	<1							µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	<1							µg/l	1	A-T-006w
Styrene (leachable)$_A$	3							µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	<1							µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	<1							µg/l	1	A-T-006w

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
PAH-16MS										
Acenaphthene$_A^{M\#}$	10.5							mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.07							mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	6.13							mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.73							mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.18							mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.24							mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05							mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.08							mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.72							mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04							mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	6.14							mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	9.41							mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.05							mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	3.12							mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	25.5							mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	4.46							mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	67.3							mg/kg	0.01	A-T-019s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	401.40							µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	7.33							µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	57.04							µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	4.10							µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	0.39							µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	0.54							µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	0.05							µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	0.21							µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	3.28							µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	<0.02							µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	46.17							µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	211.08							µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	0.07							µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	1623.52							µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	278.39							µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	32.89							µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	2670							µg/l	0.02	A-T-019w
Phenols (speciated HPLC)										
Phenol$_A$	<0.2							mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2							mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2							mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2							mg/kg	0.2	A-T-050s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	<0.002							µg/l	0.002	A-T-004w

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100							µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100							µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100							µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100							µg/kg	100	A-T-052s
Dibenzofuran$_A$	10900							µg/kg	100	A-T-052s
Carbazole$_A$	1730							µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100							µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500							µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100							µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100							µg/kg	100	A-T-052s
4-Nitrophenol$_A$	429							µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	142							µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100							µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100							µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100							µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100							µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100							µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100							µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	1410							µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	190							µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100							µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100							µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100							µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100							µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100							µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100							µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100							µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	14100							µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100							µg/kg	100	A-T-052s
Phenol$_A$	<100							µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100							µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100							µg/kg	100	A-T-052s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
n-Dioctylphthalate$_A$	<500							µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100							µg/kg	100	A-T-052s
Nitrobenzene$_A$	176							µg/kg	100	A-T-052s
Isophorone$_A$	<100							µg/kg	100	A-T-052s
Hexachloroethane$_A$	4830							µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100							µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100							µg/kg	100	A-T-052s
Perylene$_A$	<100							µg/kg	100	A-T-052s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
VOC										
Dichlorodifluoromethane$_A$	<1							µg/kg	1	A-T-006s
Chloromethane$_A$	<10							µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^\#$	<1							µg/kg	1	A-T-006s
Bromomethane$_A^\#$	<1							µg/kg	1	A-T-006s
Chloroethane$_A^\#$	<1							µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^\#$	<1							µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^\#$	<1							µg/kg	1	A-T-006s
Carbon Disulphide$_A^\#$	<1							µg/kg	1	A-T-006s
Dichloromethane$_A$	<5							µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^\#$	<1							µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^\#$	<1							µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^\#$	<1							µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^\#$	<1							µg/kg	1	A-T-006s
Bromochloromethane$_A^\#$	<5							µg/kg	5	A-T-006s
Chloroform$_A^\#$	<1							µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^\#$	<1							µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^\#$	<1							µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^\#$	<1							µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^\#$	<2							µg/kg	2	A-T-006s
Benzene$_A^\#$	<1							µg/kg	1	A-T-006s
Trichloroethene$_A^\#$	6							µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^\#$	<1							µg/kg	1	A-T-006s
Dibromomethane$_A^\#$	<1							µg/kg	1	A-T-006s
Bromodichloromethane$_A^\#$	<10							µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^\#$	<1							µg/kg	1	A-T-006s
Toluene$_A^\#$	<1							µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^\#$	<1							µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^\#$	<1							µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^\#$	<1							µg/kg	1	A-T-006s
Tetrachloroethene$_A^\#$	<1							µg/kg	1	A-T-006s
Dibromochloromethane$_A^\#$	<3							µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^\#$	<1							µg/kg	1	A-T-006s

Envirolab Job Number: 22/07379 **Client Project Name: Plots NT02-NT04**

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
Chlorobenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1							µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	2							µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	3							µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	2							µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1							µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	8							µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2							µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	23							µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	2							µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1							µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2							µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3							µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3							µg/kg	3	A-T-006s

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	<1							µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	<1							µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	<50							µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	108							µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	62							µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	54							µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	1659							µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	175							µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	2058							µg/l	10	A-T-055w
Aro >C5-C7 (leachable)$_A$	<1							µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	2							µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	623							µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	9761							µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	10700							µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	3148							µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	<50							µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	24580							µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C44) (leachable)$_A$	26640							µg/l	20	A-T-055w
BTEX - Benzene (leachable)$_A$	<1							µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	2							µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	5							µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	10							µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	10							µg/l	1	A-T-022w
MTBE (leachable)$_A$	<1							µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	346							µg/l	20	A-T-055w

Envirolab Job Number: 22/07379

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07379/8							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203									
Depth to Top	3.00									
Depth To Bottom										
Date Sampled	25-Jul-22									
Sample Type	Soil - ES									
Sample Matrix Code	4AB									
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<5							mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	8							mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	19							mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	21							mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	273							mg/kg	1	A-T-055s
Ali >C35-C44$_A$	24							mg/kg	1	A-T-055s
Total Aliphatics$_A$	346							mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	7							mg/kg	1	A-T-055s
Aro >C10-C12$_A$	70							mg/kg	1	A-T-055s
Aro >C12-C16$_A$	559							mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	354							mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	64							mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<5							mg/kg	1	A-T-055s
Total Aromatics$_A$	1060							mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	1410							mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-NT04

Clients Project No: 4328

Project No: 22/07379

Date Received: 28/07/2022 (am)

Cool Box Temperatures (°C): 13.5

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	22/07379/8
Client Sample No								
Client Sample ID/Depth	WS202 1.50m	WS203 0.50m	WS209 0.40m	WS208 0.40m	WS211 0.30m	WS210 0.50m	WS210 1.30m	RBH203 3.00m
Date Sampled	21/07/22	21/07/22	21/07/22	22/07/22	22/07/22	22/07/22	22/07/22	25/07/22
A-T-004s		03/08/2022			03/08/2022			
A-T-004w	03/08/2022							03/08/2022
A-T-006s	02/08/2022	02/08/2022				02/08/2022		02/08/2022
A-T-006w	03/08/2022							03/08/2022
A-T-007s		02/08/2022			02/08/2022			
A-T-019s	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-019w	03/08/2022							03/08/2022
A-T-022s	04/08/2022	08/08/2022		08/08/2022	04/08/2022	04/08/2022		04/08/2022
A-T-022w	03/08/2022							03/08/2022
A-T-024s	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-025w	06/08/2022	08/08/2022			08/08/2022			06/08/2022
A-T-026s	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-026w	03/08/2022	08/08/2022			08/08/2022			03/08/2022
A-T-027s	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-030s		29/07/2022			02/08/2022			
A-T-031s	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-031w	02/08/2022	08/08/2022			08/08/2022			02/08/2022
A-T-032 FOC	04/08/2022	01/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
A-T-032s		01/08/2022			04/08/2022			
A-T-032w	03/08/2022	08/08/2022			08/08/2022			03/08/2022
A-T-037s		02/08/2022						
A-T-037w		08/08/2022			08/08/2022			
A-T-040s	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-040w	03/08/2022							03/08/2022
A-T-042sTCN	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
A-T-044	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-045	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	
A-T-050s	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-050w		08/08/2022			08/08/2022			
A-T-052s	04/08/2022	05/08/2022				04/08/2022		04/08/2022
A-T-055s	04/08/2022	04/08/2022		08/08/2022		04/08/2022		04/08/2022
A-T-055w	03/08/2022							03/08/2022

Lab Sample ID	22/07379/1	22/07379/2	22/07379/3	22/07379/4	22/07379/5	22/07379/6	22/07379/7	22/07379/8
Client Sample No								
Client Sample ID/Depth	WS202 1.50m	WS203 0.50m	WS209 0.40m	WS208 0.40m	WS211 0.30m	WS210 0.50m	WS210 1.30m	RBH203 3.00m
Date Sampled	21/07/22	21/07/22	21/07/22	22/07/22	22/07/22	22/07/22	22/07/22	25/07/22
A-T-ANCs		02/08/2022			02/08/2022			
Calc	05/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	05/08/2022
Calc-no stones		08/08/2022			08/08/2022			
Probe		02/08/2022						
Probe (w)		08/08/2022			08/08/2022			

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/08782
Issue Number: 1 **Date:** 30 September, 2022

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Linden Richardson/Reece McGuinness
Project Name: Plots NT02-NT04
Project Ref: 4328
Order No: 1781
Date Samples Received: 06/09/22
Date Instructions Received: 07/09/22
Date Analysis Completed: 29/09/22

Approved by:



Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 22/08782

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/08782/1	22/08782/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH205	BH206								
Depth to Top	6.50	7.00								
Depth To Bottom										
Date Sampled	02-Sep-22	02-Sep-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
pH (w)$_{A}^{\#}$	7.80	7.71						pH	0.01	A-T-031w
Hardness Total$_{A}^{\#}$	504	447						mg/l Ca CO3	2	A-T-049w
Sulphate (w)$_{A}^{\#}$	85	78						mg/l	1	A-T-026w
DOC (w)$_{A}^{\#}$	7.5	<2.0						mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	1	5						µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2						µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	101	93						mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	15	8						µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	<1	<1						µg/l	1	A-T-025w
Iron (dissolved)$_{A}^{\#}$	38	190						µg/l	10	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	<1						µg/l	1	A-T-025w
Manganese (dissolved)$_{A}^{\#}$	52	58						µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1						µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	<2						µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	<1						µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	6	5						µg/l	2	A-T-025w

Envirolab Job Number: 22/08782

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/08782/1	22/08782/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH205	BH206								
Depth to Top	6.50	7.00								
Depth To Bottom										
Date Sampled	02-Sep-22	02-Sep-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Phenols (speciated HPLC) (w)										
Phenol (w)$_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
Cresols (w)$_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
Xylenols (w)$_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
Resorcinol (w) $_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
Phenols - Total by HPLC (w)$_A$	<0.01	<0.01						mg/l	0.01	A-T-050w

Envirolab Job Number: 22/08782

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/08782/1	22/08782/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH205	BH206								
Depth to Top	6.50	7.00								
Depth To Bottom										
Date Sampled	02-Sep-22	02-Sep-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
SVOC (w)										
1,2,4-Trichlorobenzene$_A$	<1	<1						µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	<1						µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	<1						µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	<1						µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	<1						µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	<1						µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1						µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1						µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1						µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1						µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1						µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1						µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1						µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1						µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1						µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1						µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1						µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1						µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1						µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1						µg/l	1	A-T-052w
Acenaphthene$_A$	<1	<1						µg/l	1	A-T-052w
Acenaphthylene$_A$	<1	<1						µg/l	1	A-T-052w
Anthracene$_A$	<1	<1						µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1						µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1						µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10						µg/l	10	A-T-052w
Benzo(a)anthracene$_A$	<1	<1						µg/l	1	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1						µg/l	1	A-T-052w
Benzo(b)fluoranthene$_A$	<1	<1						µg/l	1	A-T-052w
Benzo(k)fluoranthene$_A$	<1	<1						µg/l	1	A-T-052w
Benzo(a)pyrene$_A$	<1	<1						µg/l	1	A-T-052w
Benzo(ghi)perylene$_A$	<1	<1						µg/l	1	A-T-052w

Envirolab Job Number: 22/08782

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/08782/1	22/08782/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH205	BH206								
Depth to Top	6.50	7.00								
Depth To Bottom										
Date Sampled	02-Sep-22	02-Sep-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
Carbazole$_A$	<1	<1						µg/l	1	A-T-052w
Chrysene$_A$	<1	<1						µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1						µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	<1						µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10						µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1						µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1						µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1						µg/l	1	A-T-052w
Dibenzo(ah)anthracene$_A$	<1	<1						µg/l	1	A-T-052w
Fluorene$_A$	<1	<1						µg/l	1	A-T-052w
Fluoranthene$_A$	<1	<1						µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	<1						µg/l	1	A-T-052w
Hexachlorobenzene SVOC$_A$	<1	<1						µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	<1						µg/l	1	A-T-052w
Phenol$_A$	<1	<1						µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1						µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1						µg/l	1	A-T-052w
Naphthalene$_A$	<1	<1						µg/l	1	A-T-052w
Isophorone$_A$	<1	<1						µg/l	1	A-T-052w
Hexachlorocyclopentadiene$_A$	<1	<1						µg/l	1	A-T-052w
Phenanthrene$_A$	<1	<1						µg/l	1	A-T-052w
Pyrene$_A$	<1	<1						µg/l	1	A-T-052w
Indeno(1,2,3-cd)pyrene$_A$	<1	<1						µg/l	1	A-T-052w
Perylene$_A$	<1	<1						µg/l	1	A-T-052w

Envirolab Job Number: 22/08782

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/08782/1	22/08782/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH205	BH206								
Depth to Top	6.50	7.00								
Depth To Bottom										
Date Sampled	02-Sep-22	02-Sep-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1						µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10						µg/l	10	A-T-006w
Vinyl Chloride$_A$	<1	<1						µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5						µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5	<5						µg/l	5	A-T-006w
Chloroform$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2	<2						µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Benzene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10	<10						µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3	<3						µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1						µg/l	1	A-T-006w

Envirolab Job Number: 22/08782 **Client Project Name: Plots NT02-NT04**

Client Project Ref: 4328

Lab Sample ID	22/08782/1	22/08782/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH205	BH206								
Depth to Top	6.50	7.00								
Depth To Bottom										
Date Sampled	02-Sep-22	02-Sep-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
1,1,1,2-Tetrachloroethane$_A$	<1	<1						µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1						µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1						µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2						µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2						µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3						µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3						µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1						µg/l	1	A-T-006w

Envirolab Job Number: 22/08782

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/08782/1	22/08782/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH205	BH206								
Depth to Top	6.50	7.00								
Depth To Bottom										
Date Sampled	02-Sep-22	02-Sep-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5	<5						µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5	<5						µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10	<10						µg/l	10	A-T-055w
Total Aromatics $(w)_A$	<10	<10						µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	<10	<10						µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-NT04

Clients Project No: 4328

Project No: 22/08782

Date Received: 07/09/2022 (am)

Cool Box Temperatures (°C): 17.8

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/08782/1	22/08782/2
Client Sample No		
Client Sample ID/Depth	BH205 6.50m	BH206 7.00m
Date Sampled	02/09/22	02/09/22
A-T-006w	13/09/2022	12/09/2022
A-T-019w	13/09/2022	13/09/2022
A-T-022w	12/09/2022	12/09/2022
A-T-025w	29/09/2022	29/09/2022
A-T-026w	09/09/2022	09/09/2022
A-T-031w	12/09/2022	12/09/2022
A-T-032w	13/09/2022	22/09/2022
A-T-049w	21/09/2022	21/09/2022
A-T-050w	12/09/2022	12/09/2022
A-T-052w	16/09/2022	16/09/2022
A-T-055w	15/09/2022	15/09/2022
Calc-As Recd	15/09/2022	15/09/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/09132
Issue Number: 1 **Date:** 30 September, 2022

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-NT04
Project Ref: 4328
Order No: 1781
Date Samples Received: 16/09/22
Date Instructions Received: 20/09/22
Date Analysis Completed: 30/09/22

Approved by:



Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 22/09132

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09132/1	22/09132/2	22/09132/3	22/09132/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH207	RBH209	RBH208	RBH210						
Depth to Top	22.00	21.50	15.50	22.00						
Depth To Bottom										
Date Sampled	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22						
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
pH (w)$_{A}^{\#}$	7.28	7.16	7.10	7.11				pH	0.01	A-T-031w
Sulphate (w)$_{A}^{\#}$	188	360	271	124				mg/l	1	A-T-026w
DOC (w)$_{A}^{\#}$	<2.0	3.3	<2.0	2.5				mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	1	2	7	<1				µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	<0.2	<0.2				µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	98	140	142	95				mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	6	10	7	6				µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	<1	10	6	6				µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	2	<1	<1				µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1	<0.1				µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	3	<2	<2				µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	3	<1	<1				µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	21	13	10	8				µg/l	2	A-T-025w

Envirolab Job Number: 22/09132

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09132/1	22/09132/2	22/09132/3	22/09132/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH207	RBH209	RBH208	RBH210						
Depth to Top	22.00	21.50	15.50	22.00						
Depth To Bottom										
Date Sampled	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22						
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
PAH 16MS (w)										
Acenaphthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Acenaphthylene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Chrysene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Fluorene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Naphthalene (w)$_{A}^{\#}$	<0.01	<0.01	0.09	<0.01				µg/l	0.01	A-T-019w
Phenanthrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01				µg/l	0.01	A-T-019w
Pyrene (w)$_{A}^{\#}$	<0.01	0.03	<0.01	<0.01				µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_{A}^{\#}$	<0.01	0.03	0.09	<0.01				µg/l	0.01	A-T-019w

Envirolab Job Number: 22/09132

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09132/1	22/09132/2	22/09132/3	22/09132/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH207	RBH209	RBH208	RBH210						
Depth to Top	22.00	21.50	15.50	22.00						
Depth To Bottom										
Date Sampled	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22						
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
SVOC (excluding PAH-16) (w)										
1,2,4-Trichlorobenzene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10	<10	<10				µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Carbazole$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10	<10	<10				µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w

Envirolab Job Number: 22/09132

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09132/1	22/09132/2	22/09132/3	22/09132/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH207	RBH209	RBH208	RBH210						
Depth to Top	22.00	21.50	15.50	22.00						
Depth To Bottom										
Date Sampled	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22						
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
Hexachlorobenzene SVOC$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Phenol$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Isophorone$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Hexachlorocyclopentadiene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w
Perylene$_A$	<1	<1	<1	<1				µg/l	1	A-T-052w

Envirolab Job Number: 22/09132

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09132/1	22/09132/2	22/09132/3	22/09132/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH207	RBH209	RBH208	RBH210						
Depth to Top	22.00	21.50	15.50	22.00						
Depth To Bottom										
Date Sampled	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22						
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1				µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10	<10				µg/l	10	A-T-006w
Vinyl Chloride$_A$	<1	<1	<1	<1				µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5	<5				µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-006w
Chloroform$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2	<2	<2	<2				µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Benzene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10	<10	<10	<10				µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3	<3	<3	<3				µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1	<1				µg/l	1	A-T-006w

Envirolab Job Number: 22/09132 **Client Project Name: Plots NT02-NT04**

Client Project Ref: 4328

Lab Sample ID	22/09132/1	22/09132/2	22/09132/3	22/09132/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH207	RBH209	RBH208	RBH210						
Depth to Top	22.00	21.50	15.50	22.00						
Depth To Bottom										
Date Sampled	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22						
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1				µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1				µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2				µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2	<2				µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3	<3				µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3	<3				µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1				µg/l	1	A-T-006w

Envirolab Job Number: 22/09132

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09132/1	22/09132/2	22/09132/3	22/09132/4				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH207	RBH209	RBH208	RBH210						
Depth to Top	22.00	21.50	15.50	22.00						
Depth To Bottom										
Date Sampled	14-Sep-22	14-Sep-22	14-Sep-22	14-Sep-22						
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5	<5	<5	<5				µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	<5	<5	<5	<5				µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10	<10	<10	<10				µg/l	10	A-T-055w
Total Aromatics $(w)_A$	<10	<10	<10	<10				µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	<10	<10	<10	<10				µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1	<1	<1				µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-NT04

Clients Project No: 4328

Project No: 22/09132

Date Received: 20/09/2022 (am)

Cool Box Temperatures (°C): 13.3

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/09132/1	22/09132/2	22/09132/3	22/09132/4
Client Sample No				
Client Sample ID/Depth	RBH207 22.00m	RBH209 21.50m	RBH208 15.50m	RBH210 22.00m
Date Sampled	14/09/22	14/09/22	14/09/22	14/09/22
A-T-006w	26/09/2022	26/09/2022	26/09/2022	26/09/2022
A-T-019w	23/09/2022	23/09/2022	23/09/2022	23/09/2022
A-T-022w	22/09/2022	22/09/2022	22/09/2022	22/09/2022
A-T-025w	30/09/2022	24/09/2022	24/09/2022	24/09/2022
A-T-026w	21/09/2022	21/09/2022	21/09/2022	21/09/2022
A-T-031w	22/09/2022	22/09/2022	22/09/2022	22/09/2022
A-T-032w	22/09/2022	28/09/2022	28/09/2022	28/09/2022
A-T-049w	26/09/2022	26/09/2022	26/09/2022	26/09/2022
A-T-052w	28/09/2022	28/09/2022	28/09/2022	28/09/2022
A-T-055w	23/09/2022	23/09/2022	23/09/2022	23/09/2022
Calc-As Recd	23/09/2022	23/09/2022	23/09/2022	23/09/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

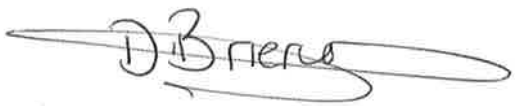
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/09651
Issue Number: 1 **Date:** 12 October, 2022

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-NT04
Project Ref: 4328
Order No: 1781
Date Samples Received: 03/10/22
Date Instructions Received: 03/10/22
Date Analysis Completed: 12/10/22

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09651/7	22/09651/8	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH201	RBH201 (2)	RBH202	RBH202 (2)	RBH203	RBH205	RBH207			
Depth to Top	22	22	23	23	13	22	22.5			
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
pH (w)$_{A}^{\#}$	7.26	7.22	7.09	7.09	7.10	7.27	7.31	pH	0.01	A-T-031w
Sulphate (w)$_{A}^{\#}$	298	299	412	416	93	99	162	mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	12	13	4	4	<1	<1	2	µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	136	119	203	181	129	109	102	mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	4	<4	12	8	12	8	7	µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	4	5	17	16	11	19	6	µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	<2	8	8	4	<2	<2	µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	<1	<1	<1	1	<1	<1	µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	14	16	11	10	12	7	6	µg/l	2	A-T-025w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09651/7	22/09651/8	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH201	RBH201 (2)	RBH202	RBH202 (2)	RBH203	RBH205	RBH207			
Depth to Top	22	22	23	23	13	22	22.5			
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	0.02	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	0.02	0.02	<0.01	0.02	0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Phenols (speciated HPLC) (w)										
Phenol (w)$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
Cresols (w)$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
Xylenols (w)$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
Resorcinol (w) $_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
Phenols - Total by HPLC (w)$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09651/7	22/09651/8	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH201	RBH201 (2)	RBH202	RBH202 (2)	RBH203	RBH205	RBH207			
Depth to Top	22	22	23	23	13	22	22.5			
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
SVOC (w)										
1,2,4-Trichlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Acenaphthene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Acenaphthylene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Anthracene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-052w
Benzo(a)anthracene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Benzo(b)fluoranthene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Benzo(k)fluoranthene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Benzo(a)pyrene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Benzo(ghi)perylene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09651/7	22/09651/8	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH201	RBH201 (2)	RBH202	RBH202 (2)	RBH203	RBH205	RBH207			
Depth to Top	22	22	23	23	13	22	22.5			
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Carbazole$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Chrysene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<5	<5	<5	<5	<5	<5	<5	µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Dibenzo(ah)anthracene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Fluorene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Fluoranthene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Hexachlorobenzene SVOC$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Phenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Naphthalene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Isophorone$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Hexachlorocyclopentadiene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Phenanthrene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Pyrene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Indeno(1,2,3-cd)pyrene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Perylene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09651/7	22/09651/8	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH201	RBH201 (2)	RBH202	RBH202 (2)	RBH203	RBH205	RBH207			
Depth to Top	22	22	23	23	13	22	22.5			
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-006w
Vinyl Chloride$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromomethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chloroethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Trichlorofluoromethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A$#	2	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-006w
Carbon Disulphide$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloroethene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloroethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A$#	2	<1	<1	<1	2	<1	<1	µg/l	1	A-T-006w
Bromochloromethane$_A$#	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-006w
Chloroform$_A$#	<1	<1	<1	<1	54	<1	<1	µg/l	1	A-T-006w
2,2-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichloroethane$_A$#	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Benzene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Carbon Tetrachloride$_A$#	<1	<1	<1	<1	95	<1	<1	µg/l	1	A-T-006w
Dibromomethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromodichloromethane$_A$#	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-006w
Trichloroethene$_A$#	<1	<1	4	3	480	<1	<1	µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Toluene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,3-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Dibromochloromethane$_A$#	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
1,2-Dibromoethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w

Envirolab Job Number: 22/09651 **Client Project Name: Plots NT02-NT04**

Client Project Ref: 4328

Lab Sample ID	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09651/7	22/09651/8	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH201	RBH201 (2)	RBH202	RBH202 (2)	RBH203	RBH205	RBH207			
Depth to Top	22	22	23	23	13	22	22.5			
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09651/7	22/09651/8	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH201	RBH201 (2)	RBH202	RBH202 (2)	RBH203	RBH205	RBH207			
Depth to Top	22	22	23	23	13	22	22.5			
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22			
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
TPH CWG (w) with Clean Up										
Ali >C5-C6 (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Total Aliphatics (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	Calc-As Recd
Aro >C5-C7 (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-055w
Total Aromatics (w)$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) (w)$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	Calc-As Recd
BTEX - Benzene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/9	22/09651/10	22/09651/11	22/09651/12	22/09651/13			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH208	RBH209	RBH210	BH01	BH01 (2)					
Depth to Top	21.5	15.5	22	13	13					
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22					
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
pH (w)$_{A}^{\#}$	7.06	7.11	7.07	7.21	7.23			pH	0.01	A-T-031w
Sulphate (w)$_{A}^{\#}$	252	414	123	201	197			mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	<2.0	<2.0	<2.0	<2.0	<2.0			mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	10	2	<1	21	21			µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	<0.2	<0.2	<0.2			µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	150	202	117	159	182			mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	6	4	<4	<4	7			µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	12	<1	<1	<1	2			µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1	<0.1	<0.1			µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	3	<2	<2	<2			µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	2	<1	<1	<1			µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	3	2	5	15	16			µg/l	2	A-T-025w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/9	22/09651/10	22/09651/11	22/09651/12	22/09651/13			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH208	RBH209	RBH210	BH01	BH01 (2)					
Depth to Top	21.5	15.5	22	13	13					
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22					
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
PAH 16MS (w)										
Acenaphthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	0.38	0.34			µg/l	0.01	A-T-019w
Acenaphthylene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	0.02	0.02			µg/l	0.01	A-T-019w
Anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	0.09	0.08			µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Chrysene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Fluorene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Naphthalene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	0.02	0.02			µg/l	0.01	A-T-019w
Phenanthrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Pyrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	0.51	0.46			µg/l	0.01	A-T-019w
Phenols (speciated HPLC) (w)										
Phenol (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w
Cresols (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w
Xylenols (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w
Resorcinol (w) $_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w
Phenols - Total by HPLC (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/9	22/09651/10	22/09651/11	22/09651/12	22/09651/13			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH208	RBH209	RBH210	BH01	BH01 (2)					
Depth to Top	21.5	15.5	22	13	13					
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22					
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
SVOC (w)										
1,2,4-Trichlorobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Acenaphthene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Acenaphthylene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Anthracene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10	<10	<10	<10			µg/l	10	A-T-052w
Benzo(a)anthracene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Benzo(b)fluoranthene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Benzo(k)fluoranthene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Benzo(a)pyrene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Benzo(ghi)perylene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w

Envirolab Job Number: 22/09651 **Client Project Name: Plots NT02-NT04**

Client Project Ref: 4328

Lab Sample ID	22/09651/9	22/09651/10	22/09651/11	22/09651/12	22/09651/13			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH208	RBH209	RBH210	BH01	BH01 (2)					
Depth to Top	21.5	15.5	22	13	13					
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22					
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
Carbazole$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Chrysene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<5	<5	<5	<5	<5			µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10	<10	<10	<10			µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Dibenzo(ah)anthracene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Fluorene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Fluoranthene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Hexachlorobenzene SVOC$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Phenol$_A$	<1	<1	<1	14	8			µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Naphthalene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Isophorone$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Hexachlorocyclopentadiene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Phenanthrene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Pyrene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Indeno(1,2,3-cd)pyrene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Perylene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/9	22/09651/10	22/09651/11	22/09651/12	22/09651/13			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH208	RBH209	RBH210	BH01	BH01 (2)					
Depth to Top	21.5	15.5	22	13	13					
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22					
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10	<10	<10			µg/l	10	A-T-006w
Vinyl Chloride$_A$	<1	<1	<1	16	15			µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	<1	<1	<1	234	218			µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5	<5	<5			µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	<1	<1	<1	256	267			µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-006w
Chloroform$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2	<2	<2	<2	<2			µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Benzene$_A^{\#}$	<1	<1	<1	258	186			µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10	<10	<10	<10	<10			µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	<1	<1	<1	2	2			µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3	<3	<3	<3	<3			µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/9	22/09651/10	22/09651/11	22/09651/12	22/09651/13			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH208	RBH209	RBH210	BH01	BH01 (2)					
Depth to Top	21.5	15.5	22	13	13					
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22					
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2	<2			µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2	<2	<2			µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3			µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3			µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w

Envirolab Job Number: 22/09651

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/09651/9	22/09651/10	22/09651/11	22/09651/12	22/09651/13			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH208	RBH209	RBH210	BH01	BH01 (2)					
Depth to Top	21.5	15.5	22	13	13					
Depth To Bottom										
Date Sampled	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22	27-Sep-22					
Sample Type	Water - EW	Water - EW	Water - EW	Water - EW	Water - EW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
TPH CWG (w) with Clean Up										
Ali >C5-C6 (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	<5	<5	<5	<5	11			µg/l	5	A-T-055w
Total Aliphatics (w)$_A^{\#}$	<5	<5	<5	<5	11			µg/l	5	Calc-As Recd
Aro >C5-C7 (w)$_A^{\#}$	<1	<1	<1	247	180			µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	<5	<5	<5	7	6			µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	<5	<5	<5	9	7			µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A$	<10	<10	<10	<10	<10			µg/l	10	A-T-055w
Total Aromatics (w)$_A$	<10	<10	<10	263	193			µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) (w)$_A$	<10	<10	<10	263	204			µg/l	10	Calc-As Recd
BTEX - Benzene (w)$_A^{\#}$	<1	<1	<1	247	180			µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-NT04

Project No: 22/09651

Date Received: 03/10/2022 (am)

Cool Box Temperatures (°C): 10.4, 9.8, 9.9, 10.1, 9.2 10.4

Clients Project No: 4328

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09651/7	22/09651/8	22/09651/9	22/09651/10	22/09651/11	22/09651/12	22/09651/13
Client Sample No												
Client Sample ID/Depth	RBH201 22m	RBH201 (2) 22m	RBH202 23m	RBH202 (2) 23m	RBH203 13m	RBH205 22m	RBH207 22.5m	RBH208 21.5m	RBH209 15.5m	RBH210 22m	BH01 13m	BH01 (2) 13m
Date Sampled	27/09/22	27/09/22	27/09/22	27/09/22	27/09/22	27/09/22	27/09/22	27/09/22	27/09/22	27/09/22	27/09/22	27/09/22
A-T-006w	06/10/2022	06/10/2022	06/10/2022	06/10/2022	06/10/2022	06/10/2022	06/10/2022	06/10/2022	06/10/2022	06/10/2022	06/10/2022	06/10/2022
A-T-019w	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022
A-T-022w	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022
A-T-025w	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
A-T-026w	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022
A-T-031w	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022	05/10/2022
A-T-032w	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022	11/10/2022
A-T-049w	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022	12/10/2022
A-T-050w	08/10/2022	08/10/2022	08/10/2022	08/10/2022	08/10/2022	08/10/2022	08/10/2022	08/10/2022	08/10/2022	08/10/2022	08/10/2022	08/10/2022
A-T-052w	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022
A-T-055w	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022	07/10/2022
Calc-As Recd	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022	10/10/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

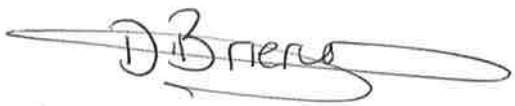
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/09831
Issue Number: 1 **Date:** 17 October, 2022

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02 - NT04
Project Ref: 4328
Order No: 1781
Date Samples Received: 06/10/22
Date Instructions Received: 07/10/22
Date Analysis Completed: 17/10/22

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 22/09831

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	22/09831/1	22/09831/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	BH03								
Depth to Top	10.00	10.00								
Depth To Bottom										
Date Sampled	04-Oct-22	04-Oct-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
pH (w)$_{A}^{\#}$	7.08	7.25						pH	0.01	A-T-031w
Sulphate (w)$_{A}^{\#}$	99	93						mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	<2.0	<2.0						mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	<1	<1						µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2						µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	118	122						mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	<4	4						µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	8	8						µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	<1						µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1						µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	4	7						µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	2	3						µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	7	37						µg/l	2	A-T-025w

Envirolab Job Number: 22/09831

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	22/09831/1	22/09831/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	BH03								
Depth to Top	10.00	10.00								
Depth To Bottom										
Date Sampled	04-Oct-22	04-Oct-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
PAH 16MS (w)										
Acenaphthene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Acenaphthylene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Anthracene $(w)_A^{\#}$	0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(a)anthracene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(a)pyrene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(b)fluoranthene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(ghi)perylene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Benzo(k)fluoranthene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Chrysene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Fluoranthene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Fluorene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Naphthalene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Phenanthrene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Pyrene $(w)_A^{\#}$	<0.01	<0.01						µg/l	0.01	A-T-019w
Total PAH 16MS $(w)_A^{\#}$	0.01	<0.01						µg/l	0.01	A-T-019w
Phenols (speciated HPLC) (w)										
Phenol $(w)_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
Cresols $(w)_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
Xylenols $(w)_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
Resorcinol $(w)_A$	<0.01	<0.01						mg/l	0.01	A-T-050w
Phenols - Total by HPLC $(w)_A$	<0.01	<0.01						mg/l	0.01	A-T-050w

Envirolab Job Number: 22/09831

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	22/09831/1	22/09831/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	BH03								
Depth to Top	10.00	10.00								
Depth To Bottom										
Date Sampled	04-Oct-22	04-Oct-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
SVOC (excluding PAH-16) (w)										
1,2,4-Trichlorobenzene$_A$	<1	<1						µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	<1						µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	<1						µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	<1						µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	<1						µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	<1						µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1						µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1						µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1						µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1						µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1						µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1						µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1						µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1						µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1						µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1						µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1						µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1						µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1						µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1						µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1						µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1						µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10						µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1						µg/l	1	A-T-052w
Carbazole$_A$	<1	<1						µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1						µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	<1						µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10						µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1						µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1						µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1						µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	<1						µg/l	1	A-T-052w

Envirolab Job Number: 22/09831

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	22/09831/1	22/09831/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	BH03								
Depth to Top	10.00	10.00								
Depth To Bottom										
Date Sampled	04-Oct-22	04-Oct-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
Hexachlorobenzene SVOC$_A$	<1	<1						µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	<1						µg/l	1	A-T-052w
Phenol$_A$	<1	<1						µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1						µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1						µg/l	1	A-T-052w
Isophorone$_A$	<1	<1						µg/l	1	A-T-052w
Hexachlorocyclopentadiene$_A$	<1	<1						µg/l	1	A-T-052w
Perylene$_A$	<1	<1						µg/l	1	A-T-052w

Envirolab Job Number: 22/09831

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	22/09831/1	22/09831/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	BH03								
Depth to Top	10.00	10.00								
Depth To Bottom										
Date Sampled	04-Oct-22	04-Oct-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1						µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10						µg/l	10	A-T-006w
Vinyl Chloride$_A$	<1	<1						µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5						µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	2	3						µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5	<5						µg/l	5	A-T-006w
Chloroform$_A^{\#}$	77	33						µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2	<2						µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Benzene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	104	58						µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10	<10						µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	572	250						µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	1	<1						µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3	<3						µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1	<1						µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1						µg/l	1	A-T-006w

Envirolab Job Number: 22/09831

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	22/09831/1	22/09831/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	BH03								
Depth to Top	10.00	10.00								
Depth To Bottom										
Date Sampled	04-Oct-22	04-Oct-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
1,1,1,2-Tetrachloroethane$_A$	<1	<1						µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1						µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1						µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1						µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2						µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1						µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2						µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3						µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3						µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1						µg/l	1	A-T-006w

Envirolab Job Number: 22/09831

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	22/09831/1	22/09831/2						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	BH03								
Depth to Top	10.00	10.00								
Depth To Bottom										
Date Sampled	04-Oct-22	04-Oct-22								
Sample Type	Water - EW	Water - EW								
Sample Matrix Code	N/A	N/A								
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5	<5						µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5	<5						µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	<5						µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	18	13						µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10	<10						µg/l	10	A-T-055w
Total Aromatics $(w)_A$	18	13						µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	18	13						µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1						µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02 - NT04

Clients Project No: 4328

Project No: 22/09831

Date Received: 07/10/2022 (am)

Cool Box Temperatures (°C): 14.4

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/09831/1	22/09831/2
Client Sample No		
Client Sample ID/Depth	RBH203 10.00m	BH03 10.00m
Date Sampled	04/10/22	04/10/22
A-T-006w	12/10/2022	12/10/2022
A-T-019w	12/10/2022	12/10/2022
A-T-022w	13/10/2022	13/10/2022
A-T-025w	15/10/2022	15/10/2022
A-T-026w	14/10/2022	14/10/2022
A-T-031w	14/10/2022	14/10/2022
A-T-032w	17/10/2022	17/10/2022
A-T-049w	17/10/2022	17/10/2022
A-T-050w	14/10/2022	14/10/2022
A-T-052w	14/10/2022	14/10/2022
A-T-055w	12/10/2022	12/10/2022
Calc-As Recd	13/10/2022	13/10/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Reece McGuinnes
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WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 22-79465

Project / Site name:	Plots NT02-NT04	**Samples received on:**	19/08/2022
Your job number:	4328	**Samples instructed on/ Analysis started on:**	19/08/2022
Your order number:	1792	**Analysis completed by:**	01/09/2022
Report Issue Number:	1	**Report issued on:**	05/09/2022
Samples Analysed:	11 soil samples		

Signed:

Adam Fenwick
Technical Reviewer
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 22-79465
Project / Site name: Plots NT02-NT04
Your Order No: 1792

Lab Sample Number				2397685	2397686	2397687	2397688	2397689
Sample Reference				RBH202	RBH201	RBH207	RBH203	RBH210
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				16.36-16.44	14.32-14.38	6.80-6.89	15.23-15.30	10.24-10.35
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	5.1	7.4	4	4.9	6
Total mass of sample received	kg	0.001	NONE	0.3	0.3	0.3	0.3	0.5

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.0	8.7	9.3	8.5	9.0
Total Sulphate as SO4	mg/kg	50	MCERTS	65	160	440	81	660
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	14	19	13	57	48
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.0069	0.0094	0.0067	0.029	0.024
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	6.9	9.4	6.7	28.5	24.1
Total Sulphur	%	0.005	MCERTS	< 0.005	0.006	0.017	< 0.005	0.029

U/S = Unsuitable Sample I/S = Insufficient Sample

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 22-79465
Project / Site name: Plots NT02-NT04
Your Order No: 1792

Lab Sample Number				2397690	2397691	2397692	2397693	2397694
Sample Reference				RBH208	WS209	WS203	TP213	TP219
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				13.00-13.08	3.00	2.50	1.20	2.00
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	3.7	9.7	10	9.5	5.6
Total mass of sample received	kg	0.001	NONE	0.5	0.2	0.2	0.2	0.2

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.8	8.4	7.3	8.5	8.7
Total Sulphate as SO4	mg/kg	50	MCERTS	100	290	350	340	270
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	25	150	260	260	170
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.012	0.077	0.13	0.13	0.087
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	12.4	77.4	129	131	87.2
Total Sulphur	%	0.005	MCERTS	< 0.005	0.011	0.013	0.011	0.012

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number: 22-79465
Project / Site name: Plots NT02-NT04
Your Order No: 1792

Lab Sample Number				2397695
Sample Reference				TP215
Sample Number				None Supplied
Depth (m)				2.50
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	< 0.1
Moisture Content	%	0.01	NONE	11
Total mass of sample received	kg	0.001	NONE	0.2

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	9.1
Total Sulphate as SO4	mg/kg	50	MCERTS	450
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	290
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.14
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	144
Total Sulphur	%	0.005	MCERTS	0.017

U/S = Unsuitable Sample I/S = Insufficient Sample

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The results included within the report relate only to the sample(s) submitted for testing.

Analytical Report Number : 22-79465
Project / Site name: Plots NT02-NT04

* 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 *
2397685	RBH202	None Supplied	16.36-16.44	Red clay.
2397686	RBH201	None Supplied	14.32-14.38	Red clay.
2397687	RBH207	None Supplied	6.80-6.89	Red clay with gravel.
2397688	RBH203	None Supplied	15.23-15.30	Red clay.
2397689	RBH210	None Supplied	10.24-10.35	Red clay with gravel.
2397690	RBH208	None Supplied	13.00-13.08	Brown sandy clay.
2397691	WS209	None Supplied	3	Brown clay and sand.
2397692	WS203	None Supplied	2.5	Brown clay and sand.
2397693	TP213	None Supplied	1.2	Brown clay and sand with gravel.
2397694	TP219	None Supplied	2	Brown sandy clay.
2397695	TP215	None Supplied	2.5	Brown clay and sand.

Analytical Report Number : 22-79465
Project / Site name: Plots NT02-NT04

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
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
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
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In house method.	L038-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 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	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.

Sample Deviation Report

Analytical Report Number : 22-79465
Project / Site name: Plots NT02-NT04

This deviation report indicates the sample and test deviations that apply to the samples submitted for analysis.Please note that the associated result(s) may be unreliable and should be interpreted with care.

Sample ID	Other ID	Sample Type	Lab Sample Number	Sample Deviation	Test Name	Test Ref	Test Deviation
RBH201	None Supplied	S	2397686	a	None Supplied	None Supplied	None Supplied
RBH202	None Supplied	S	2397685	a	None Supplied	None Supplied	None Supplied
RBH203	None Supplied	S	2397688	a	None Supplied	None Supplied	None Supplied
RBH207	None Supplied	S	2397687	a	None Supplied	None Supplied	None Supplied
RBH208	None Supplied	S	2397690	a	None Supplied	None Supplied	None Supplied
RBH210	None Supplied	S	2397689	a	None Supplied	None Supplied	None Supplied
TP213	None Supplied	S	2397693	a	None Supplied	None Supplied	None Supplied
TP215	None Supplied	S	2397695	a	None Supplied	None Supplied	None Supplied
TP219	None Supplied	S	2397694	a	None Supplied	None Supplied	None Supplied
WS203	None Supplied	S	2397692	a	None Supplied	None Supplied	None Supplied
WS209	None Supplied	S	2397691	a	None Supplied	None Supplied	None Supplied

Key: **a** - No sampling date **b** - Incorrect container
c - Holding time **d** - Headspace **e** - Temperature

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

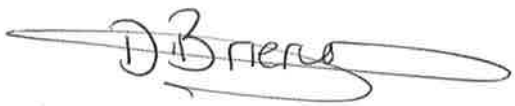
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 22/07002
Issue Number: 1 **Date:** 01 August, 2022

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: M15 4PZ Plots - NT02-NT04
Project Ref: 4328
Order No: PO1781
Date Samples Received: 15/07/22
Date Instructions Received: 20/07/22
Date Analysis Completed: 29/07/22

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.32	8.69	7.91	8.29	10.04	8.74	7.97	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	65	237	866	28	322	39	46	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	4	<1	3	1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0921	0.0266	0.0234	0.0623	0.0722	0.0518	0.0275	N/A	0.0003	A-T-032 FOC
Antimony$_D$	9	11	76	7	25	6	<5	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	44	13	18	40	26	8	31	mg/kg	1	A-T-024s
Barium$_D$	169	271	376	213	179	282	120	mg/kg	1	A-T-024s
Beryllium$_D$	2.0	0.7	0.9	1.6	1.2	0.7	0.6	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	1.7	<1.0	2.8	1.0	1.3	<1.0	2.4	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	3.3	2.0	5.2	3.6	2.4	2.1	1.4	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	144	84	148	162	206	1140	76	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	32	25	39	37	21	27	27	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	32	25	39	37	21	27	27	mg/kg	1	Calc
Lead$_D$$^{M\#}$	284	391	847	386	7660	261	101	mg/kg	1	A-T-024s
Mercury$_D$	0.41	0.97	1.65	0.63	2.89	1.90	<0.17	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	5	2	5	10	4	2	4	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	37	21	37	45	32	26	21	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	1	<1	1	2	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	42	29	39	42	29	32	34	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	836	356	557	440	419	334	78	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	-	*	-	-	*	-	-			A-T-001
pH (leachable)$_A$$^{\#}$	-	7.04	-	-	8.79	-	-	pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	-	283.89	-	-	386.87	-	-	mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	-	34.5	-	-	21.9	-	-	mg/l	2	A-T-032w
Antimony (leachable)$_A$	-	88	-	-	16	-	-	µg/l	1	A-T-025w
Arsenic (leachable)$_A$	-	7	-	-	12	-	-	µg/l	1	A-T-025w
Boron (leachable)$_A$	-	474	-	-	137	-	-	µg/l	10	A-T-025w
Barium (leachable)$_A$	-	68	-	-	7	-	-	µg/l	1	A-T-025w
Beryllium (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-025w
Cadmium (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-025w

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
Copper (leachable)$_A$	-	8	-	-	85	-	-	µg/l	4	A-T-025w
Chromium (leachable)$_A$	-	<1	-	-	18	-	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	<0.05	-	-	<0.05	-	-	mg/l	0.05	A-T-040w
Chromium (trivalent)	-	<0.05	-	-	<0.05	-	-	mg/l	0.05	Calc
Lead (leachable)$_A$	-	7	-	-	13	-	-	µg/l	1	A-T-025w
Mercury (leachable)$_A$	-	<0.1	-	-	<0.1	-	-	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	-	75	-	-	73	-	-	µg/l	1	A-T-025w
Nickel (leachable)$_A$	-	4	-	-	<2	-	-	µg/l	2	A-T-025w
Selenium (leachable)$_A$	-	1	-	-	7	-	-	µg/l	1	A-T-025w
Vanadium (leachable)$_A$	-	6	-	-	5	-	-	µg/l	1	A-T-025w
Zinc (leachable)$_A$	-	7	-	-	<2	-	-	µg/l	2	A-T-025w
1,2,4-Trimethylbenzene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	Chrysotile	Chrysotile & Amosite	Amosite & Chrysotile	Chrysotile	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	Cement	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	Loose Insulation	-	Loose Fibres	Loose Fibres	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	Yes	N/A	N/A	N/A	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	0.003	2.563	0.007	0.007	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.10	1.60	0.61	2.01	36	0.39	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.07	0.20	0.05	0.10	0.49	0.09	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.58	1.65	0.95	3.67	38	0.91	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	2.39	2.60	2.29	11	53.5	3.92	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	2.30	2.57	2.25	10.9	36.8	6.91	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	2.74	2.88	2.62	11.5	47.8	7.29	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.87	1.19	1.00	4.57	21.5	3.55	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	1.09	0.96	0.91	4.01	19	2.36	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	2.66	2.80	2.43	11.2	80.8	4.17	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.25	0.30	0.25	1.21	6.23	0.78	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	5.06	6.18	5.75	24.4	175	7.75	<0.08	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	*0.10*	*1.88*	*0.49*	*1.44*	20	*0.29*	*<0.01*	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	1.08	1.39	1.19	5.71	24.3	4.35	<0.03	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.04	3.06	0.24	0.26	10.6	0.08	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	3.21	7.99	3.81	15.2	204	2.47	<0.03	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	4.74	5.86	5.19	23.8	155	7.98	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	27.3	43.1	30	131	929	53.3	<0.08	mg/kg	0.01	A-T-019s

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Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	0.38	-	-	0.32	-	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	<0.02	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	0.02	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	0.04	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	<0.02	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	<0.02	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	<0.02	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	<0.02	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	0.03	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	<0.02	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	0.15	-	-	0.03	-	-	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	0.05	-	-	0.06	-	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	<0.02	-	-	<0.02	-	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	<0.02	-	-	3.43	-	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	<0.02	-	-	0.08	-	-	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	0.16	-	-	0.03	-	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	0.83	-	-	3.95	-	-	µg/l	0.02	A-T-019w
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	<0.2	<0.2	-	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s

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Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	-	0.017	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	-	0.013	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	-	0.008	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	-	0.006	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	-	0.005	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	-	0.004	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	-	<0.002	-	-	<0.002	-	-	µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	-	0.053	-	-	<0.002	-	-	µg/l	0.002	A-T-004w

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	1210	-	-	461	153	-	µg/kg	100	A-T-052s
Carbazole$_A$	-	400	-	-	481	259	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	<500	-	-	<500	<1000	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	158	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	1510	-	-	412	<100	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Phenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
n-Dioctylphthalate$_A$	-	<500	-	-	<500	<500	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	<200	-	-	<100	<500	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Isophorone$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Hexachloroethane$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Perylene$_A$	-	743	-	-	1200	1190	-	µg/kg	100	A-T-052s

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Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
VOC										
Dichlorodifluoromethane$_{A}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Chloromethane$_{A}$	-	<10	-	-	<10	<10	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	-	<5	-	-	<5	<5	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	-	<5	-	-	<5	<5	-	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	-	<2	-	-	<2	<2	-	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	-	<1	-	-	12	<1	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	-	<10	-	-	<10	<10	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	-	<3	-	-	<3	<3	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
Chlorobenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	-	<2	-	-	<2	<2	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	-	<2	-	-	<2	<2	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	-	<3	-	-	<3	<3	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	-	<3	-	-	<3	<3	-	µg/kg	3	A-T-006s

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	-	<2	-	-	<2	-	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	<10	-	-	<10	-	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	<10	-	-	<10	-	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	<10	-	-	<10	-	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	17	-	-	<10	-	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	105	-	-	<20	-	-	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	18	-	-	<10	-	-	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	140	-	-	<20	-	-	µg/l	10	A-T-055w
Aro >C5-C7 (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	<10	-	-	<10	-	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	19	-	-	14	-	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	30	-	-	19	-	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	32	-	-	12	-	-	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	<10	-	-	<10	-	-	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	81	-	-	45	-	-	µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	221	-	-	45	-	-	µg/l	20	A-T-055w
BTEX - Benzene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	<1	-	-	<1	-	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	<20	-	-	<20	-	-	µg/l	20	A-T-055w

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP201	TP203	TP203	TP207	TP202	WS204	WS204			
Depth to Top	0.50	0.30	1.20	0.20	0.50	0.40	1.40			
Depth To Bottom										
Date Sampled	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	4ABE	4ABE	4AB	4AB	4AB	5ABE			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<5	<10	-	<5	-	-	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<5	<10	-	<5	-	-	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	2	14	<10	-	9	-	-	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	4	29	142	-	19	-	-	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	130	384	1610	-	43	-	-	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	26	90	87	-	34	-	-	mg/kg	1	A-T-055s
Total Aliphatics$_A$	162	517	1840	-	105	-	-	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<5	<10	-	8	-	-	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	1	16	<10	-	22	-	-	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	10	90	51	-	146	-	-	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	85	204	899	-	413	-	-	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	226	352	867	-	623	-	-	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	16	24	<10	-	25	-	-	mg/kg	1	A-T-055s
Total Aromatics$_A$	338	685	1820	-	1240	-	-	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	501	1200	3660	-	1340	-	-	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	-	<0.01	-	-	mg/kg	0.01	A-T-022s

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/8	22/07002/9	22/07002/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS205	TP204	TP203							
Depth to Top	0.30	0.60	2.50							
Depth To Bottom										
Date Sampled	13-Jul-22	13-Jul-22	12-Jul-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4AB	4ABE	5A							
% Stones >10mm$_A$	<0.1	<0.1	<0.1					% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	10.56	7.88	7.81					pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	149	1470	10					mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0553	0.0502	<0.0003					N/A	0.0003	A-T-032 FOC
Antimony$_D$	<5	8	<5					mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	103	119	1					mg/kg	1	A-T-024s
Barium$_D$	184	353	122					mg/kg	1	A-T-024s
Beryllium$_D$	1.1	2.0	0.6					mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	1.1	<1.0					mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	2.5	2.6	0.8					mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	77	231	51					mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	28	28	28					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1					mg/kg	1	A-T-040s
Chromium (trivalent)	28	28	28					mg/kg	1	Calc
Lead$_D$$^{M\#}$	343	709	18					mg/kg	1	A-T-024s
Mercury$_D$	4.47	1.52	0.67					mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	4	8	<1					mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	30	42	19					mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	1	2	<1					mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	55	55	28					mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	181	341	45					mg/kg	5	A-T-024s

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/8	22/07002/9	22/07002/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS205	TP204	TP203							
Depth to Top	0.30	0.60	2.50							
Depth To Bottom										
Date Sampled	13-Jul-22	13-Jul-22	12-Jul-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4AB	4ABE	5A							
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD							A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-							A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A							A-T-045

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/8	22/07002/9	22/07002/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS205	TP204	TP203							
Depth to Top	0.30	0.60	2.50							
Depth To Bottom										
Date Sampled	13-Jul-22	13-Jul-22	12-Jul-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4AB	4ABE	5A							
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.10	0.07	0.02					mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.03	0.02	<0.01					mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.26	0.19	0.02					mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.82	1.04	0.06					mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.94	0.89	<0.04					mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	1.03	1.18	<0.05					mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.73	0.59	<0.05					mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.35	0.44	<0.07					mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.91	1.28	<0.06					mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.15	0.14	<0.04					mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	1.80	2.33	0.12					mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	*0.08*	*0.05*	0.02					mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.66	0.63	<0.03					mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.04	0.05	<0.03					mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	1.13	1.10	0.13					mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	1.69	2.36	0.11					mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	10.7	12.4	0.48					mg/kg	0.01	A-T-019s

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/8	22/07002/9	22/07002/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS205	TP204	TP203							
Depth to Top	0.30	0.60	2.50							
Depth To Bottom										
Date Sampled	13-Jul-22	13-Jul-22	12-Jul-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4AB	4ABE	5A							
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s

Envirolab Job Number: 22/07002

Client Project Name: M15 4PZ Plots - NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07002/8	22/07002/9	22/07002/10					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS205	TP204	TP203							
Depth to Top	0.30	0.60	2.50							
Depth To Bottom										
Date Sampled	13-Jul-22	13-Jul-22	12-Jul-22							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4AB	4ABE	5A							
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	-	<1	-					mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	-	<1	-					mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	-	1	-					mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	-	4	-					mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	-	65	-					mg/kg	1	A-T-055s
Ali >C35-C44$_A$	-	12	-					mg/kg	1	A-T-055s
Total Aliphatics$_A$	-	81	-					mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	-	<1	-					mg/kg	1	A-T-055s
Aro >C10-C12$_A$	-	1	-					mg/kg	1	A-T-055s
Aro >C12-C16$_A$	-	7	-					mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	-	22	-					mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	-	39	-					mg/kg	1	A-T-055s
Aro >C35-C44$_A$	-	6	-					mg/kg	1	A-T-055s
Total Aromatics$_A$	-	75	-					mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	-	157	-					mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: M15 4PZ Plots - NT02-NT04

Clients Project No: 4328

Project No: 22/07002

Date Received: 20/07/2022 (am)

Cool Box Temperatures (°C): 17.4

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/07002/1	22/07002/2	22/07002/3	22/07002/4	22/07002/5	22/07002/6	22/07002/7	22/07002/8	22/07002/9	22/07002/10
Client Sample No										
Client Sample ID/Depth	TP201 0.50m	TP203 0.30m	TP203 1.20m	TP207 0.20m	TP202 0.50m	WS204 0.40m	WS204 1.40m	WS205 0.30m	TP204 0.60m	TP203 2.50m
Date Sampled	12/07/22	12/07/22	12/07/22	13/07/22	13/07/22	13/07/22	13/07/22	13/07/22	13/07/22	12/07/22
A-T-004w		27/07/2022			27/07/2022					
A-T-006s		25/07/2022			25/07/2022	28/07/2022				
A-T-006w		25/07/2022			25/07/2022					
A-T-019s	28/07/2022	28/07/2022	28/07/2022	28/07/2022	29/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
A-T-019w		27/07/2022			27/07/2022					
A-T-022s	25/07/2022	25/07/2022	25/07/2022		25/07/2022				25/07/2022	
A-T-022w		26/07/2022			26/07/2022					
A-T-024s	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	28/07/2022
A-T-025w		25/07/2022			25/07/2022					
A-T-026s	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	27/07/2022
A-T-026w		25/07/2022			25/07/2022					
A-T-027s	27/07/2022	27/07/2022	27/07/2022	27/07/2022	27/07/2022	27/07/2022	27/07/2022	27/07/2022	27/07/2022	28/07/2022
A-T-031s	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	27/07/2022
A-T-031w		25/07/2022			25/07/2022					
A-T-032 FOC	26/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	28/07/2022
A-T-032w		25/07/2022			25/07/2022					
A-T-040s	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	27/07/2022
A-T-040w		27/07/2022			27/07/2022					
A-T-042sTCN	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022	25/07/2022	29/07/2022
A-T-044	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	27/07/2022
A-T-045	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022	21/07/2022	25/07/2022
A-T-050s	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	22/07/2022	27/07/2022	28/07/2022
A-T-052s		29/07/2022			28/07/2022	29/07/2022				
A-T-054		27/07/2022	27/07/2022	27/07/2022	27/07/2022					
A-T-055s	26/07/2022	26/07/2022	26/07/2022		26/07/2022				26/07/2022	
A-T-055w		27/07/2022			27/07/2022					
Calc	26/07/2022	28/07/2022	26/07/2022	26/07/2022	28/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	28/07/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT
SUPPLEMENT TO TEST REPORT 22/07217/1

Amendments: Request for Additional Analysis

Envirolab Job Number: 22/07217
Issue Number: 2 **Date:** 19 August, 2022

Client:
ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-NT04
Project Ref: 4328
Order No: 1781
Date Samples Received: 21/07/22
Date Instructions Received: 25/07/22
Date Analysis Completed: 19/08/22

Approved by:



Richard Wong
Client Manager

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	9.13	9.07	8.28	8.22	7.35	8.91	8.49	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	21	<10	24	368	48	107	37	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	6	39	19	329	2	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0235	0.0398	0.1613	0.1981	0.3143	0.0674	0.0852	N/A	0.0003	A-T-032 FOC
Antimony$_D$	52	12	469	494	963	133	17	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	10	13	77	69	84	23	17	mg/kg	1	A-T-024s
Barium$_D$	379	188	1410	473	797	538	228	mg/kg	1	A-T-024s
Beryllium$_D$	0.6	1.0	1.7	1.7	2.4	1.2	1.3	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	<1.0	<1.0	<1.0	<1.0	<1.0	2.2	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	1.3	1.7	5.3	4.6	4.6	2.7	1.8	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	151	171	7580	6820	11800	1770	178	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	116	32	40	37	32	43	22	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	116	32	40	37	32	43	22	mg/kg	1	Calc
Lead$_D$$^{M\#}$	367	373	12000	8900	19000	3920	382	mg/kg	1	A-T-024s
Mercury$_D$	0.75	0.38	5.98	2.51	26.6	6.44	0.55	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	7	2	9	9	10	4	4	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	33	37	60	54	55	34	35	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	33	45	86	73	64	39	40	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	239	143	1400	1320	1230	597	152	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	-	*	-	-	-	*	-			A-T-001
pH (leachable)$_A$$^{\#}$	-	8.29	-	-	-	8.12	-	pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	-	<1.00	-	-	-	133.19	-	mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	-	22.0	-	-	-	15.8	-	mg/l	2	A-T-032w
Antimony (leachable)$_A$	-	7	-	-	-	36	-	µg/l	1	A-T-025w
Arsenic (leachable)$_A$	-	3	-	-	-	3	-	µg/l	1	A-T-025w
Boron (leachable)$_A$	-	11	-	-	-	137	-	µg/l	10	A-T-025w
Barium (leachable)$_A$	-	147	-	-	-	37	-	µg/l	1	A-T-025w
Beryllium (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-025w
Cadmium (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-025w

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
Copper (leachable)$_A$	-	66	-	-	-	17	-	µg/l	4	A-T-025w
Chromium (leachable)$_A$	-	2	-	-	-	26	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	<0.05	-	-	-	<0.05	-	mg/l	0.05	A-T-040w
Chromium (trivalent)	-	<0.05	-	-	-	<0.05	-	mg/l	0.05	Calc
Lead (leachable)$_A$	-	141	-	-	-	12	-	µg/l	1	A-T-025w
Mercury (leachable)$_A$	-	<0.1	-	-	-	<0.1	-	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	-	8	-	-	-	16	-	µg/l	1	A-T-025w
Nickel (leachable)$_A$	-	4	-	-	-	<2	-	µg/l	2	A-T-025w
Selenium (leachable)$_A$	-	1	-	-	-	1	-	µg/l	1	A-T-025w
Vanadium (leachable)$_A$	-	8	-	-	-	2	-	µg/l	1	A-T-025w
Zinc (leachable)$_A$	-	84	-	-	-	10	-	µg/l	2	A-T-025w
Carbon Disulphide (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-006w
1,2,4-Trimethylbenzene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-006w

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.07	0.30	0.12	0.14	0.08	0.13	0.20	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.02	<0.01	0.04	0.07	0.02	0.02	0.05	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.16	0.35	0.30	0.41	0.18	0.25	0.46	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.71	0.70	1.06	1.50	0.72	0.86	1.51	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.78	0.63	0.95	1.56	0.69	0.91	1.65	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	*0.89*	*0.72*	*1.05*	*1.61*	*0.79*	*0.97*	*1.63*	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.58	0.41	0.66	1.04	0.50	0.60	1.00	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.31	0.25	0.35	0.59	0.28	0.32	0.58	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.83	0.81	1.22	1.71	0.90	1.00	1.71	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.12	0.09	0.13	0.22	0.11	0.12	0.22	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	1.44	1.83	2.77	3.04	1.48	1.95	2.94	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.04	0.16	0.10	0.12	0.06	0.09	0.20	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.60	0.46	0.70	1.15	0.53	0.62	1.05	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.04	0.08	0.12	0.11	0.14	0.04	0.12	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.65	1.74	1.62	1.85	0.84	1.02	1.89	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	1.43	1.67	2.67	3.01	1.62	1.90	3.29	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	8.67	10.2	13.9	18.1	8.94	10.8	18.5	mg/kg	0.01	A-T-019s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	<0.02	-	-	-	<0.02	-	µg/l	0.02	A-T-019w

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	-	<0.002	-	-	-	<0.002	-	µg/l	0.002	A-T-004w

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	143	-	-	322	1970	-	µg/kg	100	A-T-052s
Carbazole$_A$	-	193	-	-	308	1440	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	<500	-	-	<500	<1000	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	<100	-	-	495	1260	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Phenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
n-Dioctylphthalate$_A$	-	<500	-	-	<500	<500	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	<600	-	-	<600	<600	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Isophorone$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Hexachloroethane$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	-	<100	-	-	<100	<100	-	µg/kg	100	A-T-052s
Perylene$_A$	-	400	-	-	542	2240	-	µg/kg	100	A-T-052s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
VOC										
Dichlorodifluoromethane$_{A}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Chloromethane$_{A}$	-	<10	-	-	<10	<10	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	-	<5	-	-	<5	<5	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	-	<5	-	-	<5	<5	-	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	-	<2	-	-	<2	<2	-	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	-	<10	-	-	<10	<10	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	-	<3	-	-	<3	<3	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
Chlorobenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_A$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Ethylbenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
m & p Xylene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
o-Xylene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Styrene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromoform$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Isopropylbenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_A$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
Bromobenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
n-Propylbenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_A^{\#}$	-	<2	-	-	<2	<2	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_A$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
n-Butylbenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_A$	-	<2	-	-	<2	<2	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_A$	-	<3	-	-	<3	<3	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_A^{\#}$	-	<1	-	-	<1	<1	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_A$	-	<3	-	-	<3	<3	-	µg/kg	3	A-T-006s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	<10	-	-	-	<10	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	<10	-	-	-	<10	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	<10	-	-	-	<10	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	<10	-	-	-	<10	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	<20	-	-	-	<20	-	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	<10	-	-	-	<10	-	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	<20	-	-	-	<20	-	µg/l	10	A-T-055w
Aro >C5-C7 (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	30	-	-	-	13	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	<10	-	-	-	<10	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	<10	-	-	-	<10	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	10	-	-	-	12	-	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	<10	-	-	-	<10	-	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	40	-	-	-	25	-	µg/l	20	A-T-055w
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	40	-	-	-	25	-	µg/l	20	A-T-055w
BTEX - Benzene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	<1	-	-	-	<1	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	<20	-	-	-	<20	-	µg/l	20	A-T-055w

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP216	TP216	TP216	TP217	TP215	TP214	TP220			
Depth to Top	0.20	0.60	1.20	0.50	1.00	0.80	0.70			
Depth To Bottom										
Date Sampled	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	18-Jul-22	19-Jul-22			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5A	4ABE	4ABDE	4AE	4ABE	4ABE			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	-	<1	-	-	2	<1	-	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	-	<1	-	-	2	<1	-	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	-	2	-	-	5	2	-	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	-	2	-	-	5	9	-	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	-	38	-	-	117	178	-	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	-	13	-	-	34	130	-	mg/kg	1	A-T-055s
Total Aliphatics$_A$	-	55	-	-	166	319	-	mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	-	1	-	-	2	<1	-	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	-	2	-	-	4	2	-	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	-	10	-	-	9	7	-	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	-	40	-	-	24	26	-	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	-	90	-	-	82	110	-	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	-	7	-	-	12	116	-	mg/kg	1	A-T-055s
Total Aromatics$_A$	-	151	-	-	133	261	-	mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	-	206	-	-	298	580	-	mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	-	<0.01	-	-	<0.01	<0.01	-	mg/kg	0.01	A-T-022s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/8	22/07217/9						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP218	TP219								
Depth to Top	0.50	0.50								
Depth To Bottom										
Date Sampled	19-Jul-22	19-Jul-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4AB	4AB								
% Stones >10mm$_A$	<0.1	<0.1						% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.11	8.09						pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	504	344						mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	9						mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2						mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0728	0.0877						N/A	0.0003	A-T-032 FOC
Antimony$_D$	28	77						mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	58	26						mg/kg	1	A-T-024s
Barium$_D$	263	494						mg/kg	1	A-T-024s
Beryllium$_D$	1.7	1.0						mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$	1.3	<1.0						mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	3.1	3.1						mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	579	1160						mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	34	24						mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1						mg/kg	1	A-T-040s
Chromium (trivalent)	34	24						mg/kg	1	Calc
Lead$_D$$^{M\#}$	1560	1840						mg/kg	1	A-T-024s
Mercury$_D$	3.19	2.46						mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	5	3						mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	47	30						mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	70	39						mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	239	2000						mg/kg	5	A-T-024s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/8	22/07217/9						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP218	TP219								
Depth to Top	0.50	0.50								
Depth To Bottom										
Date Sampled	19-Jul-22	19-Jul-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4AB	4AB								
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	Chrysotile								A-T-045
Asbestos Matrix (visual)$_{D}$	-	-								A-T-045
Asbestos Matrix (microscope)$_{D}$	-	Loose fibres								A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A								A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	0.007						% w/w	0.001	A-T-054

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/8	22/07217/9						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP218	TP219								
Depth to Top	0.50	0.50								
Depth To Bottom										
Date Sampled	19-Jul-22	19-Jul-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4AB	4AB								
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.16	0.13						mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.10	0.08						mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.44	0.42						mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	1.29	1.77						mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.29	1.85						mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	*1.28*	*1.95*						mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.72	1.12						mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.47	0.67						mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.45	1.87						mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.17	0.24						mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	2.90	3.71						mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.17	0.14						mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.77	1.22						mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.11	0.12						mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	2.25	1.76						mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	2.90	3.93						mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	16.5	21						mg/kg	0.01	A-T-019s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/8	22/07217/9						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP218	TP219								
Depth to Top	0.50	0.50								
Depth To Bottom										
Date Sampled	19-Jul-22	19-Jul-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4AB	4AB								
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	-						µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	-						µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	-						µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	-						µg/kg	100	A-T-052s
Dibenzofuran$_A$	150	-						µg/kg	100	A-T-052s
Carbazole$_A$	164	-						µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	-						µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	-						µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	-						µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	-						µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	-						µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	-						µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	-						µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	-						µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	-						µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	-						µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	-						µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	-						µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	-						µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	-						µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	-						µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	-						µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	-						µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	-						µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	-						µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	-						µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	-						µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	162	-						µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	-						µg/kg	100	A-T-052s
Phenol$_A$	<100	-						µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	-						µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	-						µg/kg	100	A-T-052s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/8	22/07217/9						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP218	TP219								
Depth to Top	0.50	0.50								
Depth To Bottom										
Date Sampled	19-Jul-22	19-Jul-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4AB	4AB								
n-Dioctylphthalate$_A$	<500	-						µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<600	-						µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	-						µg/kg	100	A-T-052s
Isophorone$_A$	<100	-						µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	-						µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	-						µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	-						µg/kg	100	A-T-052s
Perylene$_A$	528	-						µg/kg	100	A-T-052s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/8	22/07217/9						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP218	TP219								
Depth to Top	0.50	0.50								
Depth To Bottom										
Date Sampled	19-Jul-22	19-Jul-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4AB	4AB								
VOC										
Dichlorodifluoromethane$_{A}$	<1	-						µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	-						µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	-						µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	-						µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	-						µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	-						µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	-						µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s

Lab Sample ID	22/07217/8	22/07217/9						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP218	TP219								
Depth to Top	0.50	0.50								
Depth To Bottom										
Date Sampled	19-Jul-22	19-Jul-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4AB	4AB								
Chlorobenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	-						µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	-						µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	-						µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	-						µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	-						µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	-						µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	-						µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	-						µg/kg	3	A-T-006s

Envirolab Job Number: 22/07217

Client Project Name: Plots NT02-NT04

Client Project Ref: 4328

Lab Sample ID	22/07217/8	22/07217/9						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP218	TP219								
Depth to Top	0.50	0.50								
Depth To Bottom										
Date Sampled	19-Jul-22	19-Jul-22								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4AB	4AB								
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	1	-						mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	-						mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	2	-						mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	4	-						mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	28	-						mg/kg	1	A-T-055s
Ali >C35-C44$_A$	13	-						mg/kg	1	A-T-055s
Total Aliphatics$_A$	49	-						mg/kg	1	A-T-055s
Aro >C5-C7$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	1	-						mg/kg	1	A-T-055s
Aro >C10-C12$_A$	4	-						mg/kg	1	A-T-055s
Aro >C12-C16$_A$	16	-						mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	60	-						mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	183	-						mg/kg	1	A-T-055s
Aro >C35-C44$_A$	11	-						mg/kg	1	A-T-055s
Total Aromatics$_A$	275	-						mg/kg	1	A-T-055s
TPH (Ali & Aro >C5-C44)$_A$	324	-						mg/kg	1	A-T-055s
BTEX - Benzene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-						mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-NT04

Clients Project No: 4328

Project No: 22/07217

Date Received: 25/07/2022 (am)

Cool Box Temperatures (°C): 16.5

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	22/07217/1	22/07217/2	22/07217/3	22/07217/4	22/07217/5	22/07217/6	22/07217/7	22/07217/8	22/07217/9
Client Sample No									
Client Sample ID/Depth	TP216 0.20m	TP216 0.60m	TP216 1.20m	TP217 0.50m	TP215 1.00m	TP214 0.80m	TP220 0.70m	TP218 0.50m	TP219 0.50m
Date Sampled	18/07/22	18/07/22	18/07/22	18/07/22	18/07/22	18/07/22	19/07/22	19/07/22	19/07/22
A-T-004w		01/08/2022				01/08/2022			
A-T-006s		03/08/2022			03/08/2022	03/08/2022		03/08/2022	
A-T-006w		29/07/2022				01/08/2022			
A-T-019s	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
A-T-019w		02/08/2022				02/08/2022			
A-T-022s		01/08/2022			01/08/2022	01/08/2022		01/08/2022	
A-T-022w		02/08/2022				02/08/2022			
A-T-024s	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
A-T-025w		02/08/2022				02/08/2022			
A-T-026s	29/07/2022	29/07/2022	29/07/2022	29/07/2022	03/08/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
A-T-026w		29/07/2022				29/07/2022			
A-T-027s	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
A-T-031s	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
A-T-031w		28/07/2022				28/07/2022			
A-T-032 FOC	01/08/2022	01/08/2022	01/08/2022	01/08/2022	01/08/2022	01/08/2022	01/08/2022	01/08/2022	01/08/2022
A-T-032w		01/08/2022				01/08/2022			
A-T-040s	29/07/2022	29/07/2022	29/07/2022	29/07/2022	02/08/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
A-T-040w		29/07/2022				29/07/2022			
A-T-042sTCN	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022	02/08/2022
A-T-044	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022	28/07/2022
A-T-045	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022	26/07/2022
A-T-050s	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022	29/07/2022
A-T-052s		01/08/2022			01/08/2022	01/08/2022		01/08/2022	
A-T-054									19/08/2022
A-T-055s		02/08/2022			02/08/2022	02/08/2022		02/08/2022	
A-T-055w		02/08/2022				02/08/2022			
Calc	29/07/2022	02/08/2022	29/07/2022	29/07/2022	02/08/2022	02/08/2022	29/07/2022	29/07/2022	29/07/2022

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

SVOC Tentatively Identified Compounds

(Note: TIC Results are reported on an as received basis and are not moisture corrected).

Appendix to Envirolab Report:

Lab Client Sample ID	22/07379/2		
Client Sample ID	WS203		
Depth to top	0.50m		
Depth to bottom			
Top 10	Compound	CAS number	Estimated Concentration µg/kg
1	Cyclic octaatomic sulphur	10544-50-0	4605.469075
2			0
3			0
4			0
5			0
6			0
7			0
8			0
9			0
10			0

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/03958
Issue Number: 1 **Date:** 10 May, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Linden Richardson/Reece McGuinness
Project Name: Plots NT02 - NT04
Project Ref: 4328
Order No: 1858
Date Samples Received: 21/04/23
Date Instructions Received: 26/04/23
Date Analysis Completed: 10/05/23

Approved by:



Richard Wong
Client Manager

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME
UKAS TESTING 1247

Envirolab Job Number: 23/03958

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	WS311	HP301							
Depth to Top	0.50	1.80	0.50							
Depth To Bottom										
Date Sampled	24-Apr-23	20-Apr-23	20-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4ABD	1A	4AE							
% Stones >10mm$_A$	14.5	3.1	13.3					% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.30	8.51	7.99					pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	36	451	281					mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0294	0.0024	0.1007					N/A	0.0003	A-T-032s
Antimony$_D$	6	<5	16					mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	8	2	36					mg/kg	1	A-T-024s
Barium$_D$	274	25	343					mg/kg	1	A-T-024s
Beryllium$_D$	0.6	0.6	1.6					mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	14.2	3.0					mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	1.3	<0.5	3.1					mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	81	12	503					mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	30	12	43					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1					mg/kg	1	A-T-040s
Chromium (trivalent)	30	12	43					mg/kg	1	Calc
Lead$_D$$^{M\#}$	204	7	471					mg/kg	1	A-T-024s
Mercury$_D$	1.04	<0.17	2.42					mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	3	<1	9					mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	20	11	70					mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	21	15	43					mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	274	25	910					mg/kg	5	A-T-024s

Envirolab Job Number: 23/03958

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	WS311	HP301							
Depth to Top	0.50	1.80	0.50							
Depth To Bottom										
Date Sampled	24-Apr-23	20-Apr-23	20-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4ABD	1A	4AE							
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	-	NAD							A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-							A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	-	N/A							A-T-045

Envirolab Job Number: 23/03958

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	WS311	HP301							
Depth to Top	0.50	1.80	0.50							
Depth To Bottom										
Date Sampled	24-Apr-23	20-Apr-23	20-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4ABD	1A	4AE							
PAH-16MS										
Acenaphthene$_A^{M\#}$	2.29	<0.01	0.26					mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.05	<0.01	0.03					mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	3.45	<0.02	0.80					mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	8.39	<0.04	2.01					mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	8.75	<0.04	2.03					mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	9.59	<0.05	2.27					mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	4.17	<0.05	1.02					mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	3.58	<0.07	0.79					mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	8.31	<0.06	2.09					mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.84	<0.04	0.21					mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	19.2	<0.08	4.57					mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	1.68	<0.01	0.22					mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	5.02	<0.03	1.17					mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.58	<0.03	0.07					mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	13.6	<0.03	3.22					mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	16.4	<0.07	3.97					mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	106	<0.08	24.7					mg/kg	0.01	A-T-019s
Phenols (speciated HPLC)										
Phenol$_A$	-	<0.2	-					mg/kg	0.2	A-T-050s
Cresols$_A$	-	<0.2	-					mg/kg	0.2	A-T-050s
Xylenols$_A$	-	<0.2	-					mg/kg	0.2	A-T-050s
Resorcinol$_A$	-	<0.2	-					mg/kg	0.2	A-T-050s

Envirolab Job Number: 23/03958

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	WS311	HP301							
Depth to Top	0.50	1.80	0.50							
Depth To Bottom										
Date Sampled	24-Apr-23	20-Apr-23	20-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4ABD	1A	4AE							
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	-	<100	-					µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	<100	-					µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	<100	-					µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	<100	-					µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	<100	-					µg/kg	100	A-T-052s
Carbazole$_A$	-	<100	-					µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	<100	-					µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	<500	-					µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	<100	-					µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	<100	-					µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	<100	-					µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	<100	-					µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	<100	-					µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	<100	-					µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	<100	-					µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	-	<100	-					µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	<100	-					µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	<100	-					µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	<100	-					µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	<100	-					µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	<100	-					µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	<100	-					µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	<100	-					µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	-	<100	-					µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	-	<100	-					µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	-	<100	-					µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	<100	-					µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	<100	-					µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	<100	-					µg/kg	100	A-T-052s
Phenol$_A$	-	<100	-					µg/kg	100	A-T-052s
Pentachlorophenol$_A$	-	<100	-					µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	<100	-					µg/kg	100	A-T-052s

Envirolab Job Number: 23/03958

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	WS311	HP301							
Depth to Top	0.50	1.80	0.50							
Depth To Bottom										
Date Sampled	24-Apr-23	20-Apr-23	20-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4ABD	1A	4AE							
n-Dioctylphthalate$_A$	-	<500	-					µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	<100	-					µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	<100	-					µg/kg	100	A-T-052s
Isophorone$_A$	-	<100	-					µg/kg	100	A-T-052s
Hexachloroethane$_A$	-	<100	-					µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	-	<100	-					µg/kg	100	A-T-052s
Perylene$_A$	-	<100	-					µg/kg	100	A-T-052s

Envirolab Job Number: 23/03958

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	WS311	HP301							
Depth to Top	0.50	1.80	0.50							
Depth To Bottom										
Date Sampled	24-Apr-23	20-Apr-23	20-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4ABD	1A	4AE							
VOC										
Dichlorodifluoromethane$_{A}$	-	<1	-					µg/kg	1	A-T-006s
Chloromethane$_{A}$	-	<10	-					µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Dichloromethane$_{A}$	-	<5	-					µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	-	<5	-					µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	-	<2	-					µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	-	<10	-					µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	-	<3	-					µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s

Envirolab Job Number: 23/03958

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	WS311	HP301							
Depth to Top	0.50	1.80	0.50							
Depth To Bottom										
Date Sampled	24-Apr-23	20-Apr-23	20-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4ABD	1A	4AE							
Chlorobenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	-	<1	-					µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	-	<1	-					µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	-	<2	-					µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	-	<1	-					µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	-	<2	-					µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	-	<3	-					µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	-	<1	-					µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	-	<3	-					µg/kg	3	A-T-006s

Envirolab Job Number: 23/03958

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	WS311	HP301							
Depth to Top	0.50	1.80	0.50							
Depth To Bottom										
Date Sampled	24-Apr-23	20-Apr-23	20-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4ABD	1A	4AE							
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	-	<1	-					mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	-	<1	-					mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	-	<1	-					mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	-	<1	-					mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	-	<1	-					mg/kg	1	A-T-055s
Ali >C35-C44$_A$	-	<1	-					mg/kg	1	A-T-055s
Total Aliphatics$_A$	-	<1	-					mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	-	<1	-					mg/kg	1	A-T-055s
Aro >C10-C12$_A$	-	<1	-					mg/kg	1	A-T-055s
Aro >C12-C16$_A$	-	<1	-					mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	-	<1	-					mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	-	<1	-					mg/kg	1	A-T-055s
Aro >C35-C44$_A$	-	<1	-					mg/kg	1	A-T-055s
Total Aromatics$_A$	-	<1	-					mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	-	<1	-					mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	-	<0.01	-					mg/kg	0.01	A-T-022s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02 - NT04

Clients Project No: 4328

Project No: 23/03958

Date Received: 26/04/2023 (am)

Cool Box Temperatures (°C): 11.4

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/03958/2	23/03958/3	23/03958/4
Client Sample No			
Client Sample ID/Depth	RBH305 0.50m	WS311 1.80m	HP301 0.50m
Date Sampled	24/04/23	20/04/23	20/04/23
A-T-004s	04/05/2023		04/05/2023
A-T-006s		03/05/2023	
A-T-007s	04/05/2023		04/05/2023
A-T-019s	03/05/2023	03/05/2023	03/05/2023
A-T-022s	03/05/2023	03/05/2023	03/05/2023
A-T-024s	05/05/2023	05/05/2023	05/05/2023
A-T-025w	05/05/2023		05/05/2023
A-T-026s	04/05/2023	04/05/2023	04/05/2023
A-T-026w	05/05/2023		05/05/2023
A-T-026w (F)	05/05/2023		05/05/2023
A-T-027s	05/05/2023	10/05/2023	05/05/2023
A-T-030s	04/05/2023		04/05/2023
A-T-031s	04/05/2023	04/05/2023	04/05/2023
A-T-031w	05/05/2023		05/05/2023
A-T-032s	05/05/2023	05/05/2023	05/05/2023
A-T-032w	05/05/2023		05/05/2023
A-T-037w	05/05/2023		05/05/2023
A-T-040s	04/05/2023	04/05/2023	04/05/2023
A-T-042sTCN	04/05/2023	04/05/2023	04/05/2023
A-T-044	05/05/2023	05/05/2023	05/05/2023
A-T-045	27/04/2023		27/04/2023
A-T-050s	04/05/2023	04/05/2023	04/05/2023
A-T-050w	05/05/2023		05/05/2023
A-T-052s		03/05/2023	
A-T-055s		03/05/2023	
A-T-ANCs	05/05/2023		05/05/2023
Calc	05/05/2023	05/05/2023	05/05/2023
Calc-As Recd		03/05/2023	
Calc-no stones	05/05/2023		05/05/2023
Probe (w)	05/05/2023		05/05/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/04296
Issue Number: 1 **Date:** 15 May, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Linden Richardson/Reece McGuinness
Project Name: Plots NT02 - NT04
Project Ref: 4328
Order No: 1858
Date Samples Received: 04/05/23
Date Instructions Received: 05/05/23
Date Analysis Completed: 15/05/23

Approved by:



Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 23/04296

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04296/1	23/04296/2	23/04296/3	23/04296/4	23/04296/5	23/04296/6	23/04296/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH305	RBH306	RBH203	LK BH03			
Depth to Top	5.65	7.50	7.05	6.50	6.00	7.60	7.60			
Depth To Bottom										
Date Sampled	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23			
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
pH (w)$_{A}^{\#}$	7.20	7.15	6.69	7.12	6.89	6.88	7.14	pH	0.01	A-T-031w
Dissolved Oxygen$_{A}$	8.7	8.4	5.9	9.2	6.0	9.0	7.0	mg/l	0.5	A-T-048
COD (settled)$_{A}^{\#}$	25	11	<5	6	105	11	7	mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	<1	<1	<1	<1	7	<1	<1	mg/l	1	A-T-048
Hardness Total$_{A}^{\#}$	678	386	334	409	549	402	403	mg/l Ca CO3	2	A-T-049w
Sulphate (w)$_{A}^{\#}$	283	112	70	177	515	132	89	mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	<2.0	2.9	<2.0	2.5	29.3	<2.0	<2.0	mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	27	<1	<1	2	8	<1	<1	µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	185	103	116	132	155	111	121	mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	<4	8	8	6	<4	5	<4	µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	<1	11	10	10	2	8	8	µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	<1	1	<1	<1	<1	<1	µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	3	3	8	24	<2	<2	µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	3	1	3	<1	2	3	µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	8	19	31	15	15	15	6	µg/l	2	A-T-025w

Envirolab Job Number: 23/04296

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04296/1	23/04296/2	23/04296/3	23/04296/4	23/04296/5	23/04296/6	23/04296/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH305	RBH306	RBH203	LK BH03			
Depth to Top	5.65	7.50	7.05	6.50	6.00	7.60	7.60			
Depth To Bottom										
Date Sampled	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23			
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
PAH 16MS (w)										
Acenaphthene (w)$_{A}^{\#}$	0.15	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	µg/l	0.01	A-T-019w
Acenaphthylene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Anthracene (w)$_{A}^{\#}$	0.02	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Chrysene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_{A}^{\#}$	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Fluoranthene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	0.10	<0.01	µg/l	0.01	A-T-019w
Fluorene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Naphthalene (w)$_{A}^{\#}$	0.02	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	µg/l	0.01	A-T-019w
Phenanthrene (w)$_{A}^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Pyrene (w)$_{A}^{\#}$	0.01	<0.01	<0.01	<0.01	<0.01	0.11	<0.01	µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_{A}^{\#}$	0.21	<0.01	<0.01	<0.01	0.03	0.26	<0.01	µg/l	0.01	A-T-019w
Phenols (speciated HPLC) (w)										
Phenol (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
Cresols (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
Xylenols (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
Resorcinol (w) $_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w
Phenols - Total by HPLC (w)$_{A}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/l	0.01	A-T-050w

Envirolab Job Number: 23/04296

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04296/1	23/04296/2	23/04296/3	23/04296/4	23/04296/5	23/04296/6	23/04296/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH305	RBH306	RBH203	LK BH03			
Depth to Top	5.65	7.50	7.05	6.50	6.00	7.60	7.60			
Depth To Bottom										
Date Sampled	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23			
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
SVOC (excluding PAH-16) (w)										
1,2,4-Trichlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Carbazole$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w

Envirolab Job Number: 23/04296

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04296/1	23/04296/2	23/04296/3	23/04296/4	23/04296/5	23/04296/6	23/04296/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH305	RBH306	RBH203	LK BH03			
Depth to Top	5.65	7.50	7.05	6.50	6.00	7.60	7.60			
Depth To Bottom										
Date Sampled	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23			
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
Hexachlorobenzene SVOC$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Phenol$_A$	2	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Isophorone$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w
Perylene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-052w

Envirolab Job Number: 23/04296

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04296/1	23/04296/2	23/04296/3	23/04296/4	23/04296/5	23/04296/6	23/04296/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH305	RBH306	RBH203	LK BH03			
Depth to Top	5.65	7.50	7.05	6.50	6.00	7.60	7.60			
Depth To Bottom										
Date Sampled	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23			
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-006w
Vinyl Chloride$_A^{\#}$	2	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	32	<1	2	<1	<1	<1	<1	µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	54	1	79	<1	<1	4	3	µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-006w
Chloroform$_A^{\#}$	<1	28	9	3	1	163	27	µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Benzene$_A^{\#}$	12	<1	2	<1	<1	<1	<1	µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	<1	207	38	2	<1	164	53	µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	<1	4	277	3	<1	214	43	µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	<1	<1	<1	<1	<1	4	<1	µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w

Envirolab Job Number: 23/04296

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04296/1	23/04296/2	23/04296/3	23/04296/4	23/04296/5	23/04296/6	23/04296/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH305	RBH306	RBH203	LK BH03			
Depth to Top	5.65	7.50	7.05	6.50	6.00	7.60	7.60			
Depth To Bottom										
Date Sampled	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23			
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w

Envirolab Job Number: 23/04296

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04296/1	23/04296/2	23/04296/3	23/04296/4	23/04296/5	23/04296/6	23/04296/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH305	RBH306	RBH203	LK BH03			
Depth to Top	5.65	7.50	7.05	6.50	6.00	7.60	7.60			
Depth To Bottom										
Date Sampled	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23	04-May-23			
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
TPH CWG (w) with Clean Up										
Ali >C5-C6 (w)$_A^{\#}$	<1	<1	<1	<1	2	1	<1	µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Total Aliphatics (w)$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	Calc-As Recd
Aro >C5-C7 (w)$_A^{\#}$	12	<1	2	<1	<1	<1	<1	µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5	14	<5	<5	µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	<5	<5	<5	<5	19	<5	<5	µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	5	<5	<5	<5	13	9	<5	µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-055w
Total Aromatics (w)$_A$	17	<10	<10	<10	46	<10	<10	µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) (w)$_A$	17	<10	<10	<10	48	10	<10	µg/l	10	Calc-As Recd
BTEX - Benzene (w)$_A^{\#}$	12	<1	2	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02 - NT04

Clients Project No: 4328

Project No: 23/04296

Date Received: 05/05/2023 (am)

Cool Box Temperatures (°C): 14.4 - 15.6

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/04296/1	23/04296/2	23/04296/3	23/04296/4	23/04296/5	23/04296/6	23/04296/7
Client Sample No							
Client Sample ID/Depth	RBH301 5.65m	RBH302 7.50m	RBH303 7.05m	RBH305 6.50m	RBH306 6.00m	RBH203 7.60m	LK BH03 7.60m
Date Sampled	04/05/23	04/05/23	04/05/23	04/05/23	04/05/23	04/05/23	04/05/23
A-T-006w	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023
A-T-019w	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023
A-T-022w	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023
A-T-025w	15/05/2023	15/05/2023	15/05/2023	15/05/2023	15/05/2023	15/05/2023	15/05/2023
A-T-026w	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023
A-T-031w	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023
A-T-032w	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023	12/05/2023
A-T-034w	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023
A-T-048	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023
A-T-049w	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023
A-T-050w	15/05/2023	15/05/2023	15/05/2023	15/05/2023	15/05/2023	15/05/2023	15/05/2023
A-T-052w	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023	11/05/2023
A-T-055w	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023
Calc-As Recd	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023	10/05/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/04477
Issue Number: 1 **Date:** 19 May, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Linden Richardson/Reece McGuinness
Project Name: Plots NT02 - NT04
Project Ref: 4328
Order No: 1858
Date Samples Received: 10/05/23
Date Instructions Received: 11/05/23
Date Analysis Completed: 19/05/23

Approved by:



Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 23/04477

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04477/1	23/04477/2	23/04477/3	23/04477/4	23/04477/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH203	LK BH03					
Depth to Top	5.70	7.50	7.10	7.60	7.60					
Depth To Bottom										
Date Sampled	10-May-23	10-May-23	10-May-23	10-May-23	10-May-23					
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
pH (w)$_{A}^{\#}$	7.26	7.21	6.82	7.17	7.40			pH	0.01	A-T-031w
Dissolved Oxygen$_{A}$	9.5	9.6	9.7	9.5	9.4			mg/l	0.5	A-T-048
COD (settled)$_{A}^{\#}$	<5	35	19	542	<5			mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	<1	<1	<1	1	<1			mg/l	1	A-T-048
Hardness Total$_{A}^{\#}$	743	385	329	366	395			mg/l Ca CO3	2	A-T-049w
Sulphate (w)$_{A}^{\#}$	290	117	75	92	94			mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	3.1	3.9	2.9	2.0	<2.0			mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	28	<1	<1	<1	<1			µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	<0.2	<0.2	<0.2			µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	202	101	114	106	118			mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	<4	<4	<4	<4	<4			µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	<1	7	5	6	7			µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1	<0.1	<0.1			µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	2	<2	<2	<2			µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<1	3	<1	2	3			µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	3	6	9	7	6			µg/l	2	A-T-025w

Envirolab Job Number: 23/04477

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04477/1	23/04477/2	23/04477/3	23/04477/4	23/04477/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH203	LK BH03					
Depth to Top	5.70	7.50	7.10	7.60	7.60					
Depth To Bottom										
Date Sampled	10-May-23	10-May-23	10-May-23	10-May-23	10-May-23					
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	0.13	<0.01	<0.01	0.26	<0.01			µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	0.01	<0.01	<0.01	0.09	<0.01			µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	0.23	<0.01			µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01	<0.01	<0.01	0.18	<0.01			µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01			µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	0.49	<0.01			µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	0.17	<0.01			µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	0.14	<0.01	<0.01	1.42	<0.01			µg/l	0.01	A-T-019w
Phenols (speciated HPLC) (w)										
Phenol (w)$_A$	<0.10	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w
Cresols (w)$_A$	<0.10	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w
Xylenols (w)$_A$	<0.10	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w
Resorcinol (w) $_A$	<0.10	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w
Phenols - Total by HPLC (w)$_A$	<0.10	<0.01	<0.01	<0.01	<0.01			mg/l	0.01	A-T-050w

Envirolab Job Number: 23/04477

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04477/1	23/04477/2	23/04477/3	23/04477/4	23/04477/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH203	LK BH03					
Depth to Top	5.70	7.50	7.10	7.60	7.60					
Depth To Bottom										
Date Sampled	10-May-23	10-May-23	10-May-23	10-May-23	10-May-23					
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
SVOC (excluding PAH-16) (w)										
1,2,4-Trichlorobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10	<10	<10	<10			µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Carbazole$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10	<10	<10	<10			µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w

Envirolab Job Number: 23/04477

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04477/1	23/04477/2	23/04477/3	23/04477/4	23/04477/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH203	LK BH03					
Depth to Top	5.70	7.50	7.10	7.60	7.60					
Depth To Bottom										
Date Sampled	10-May-23	10-May-23	10-May-23	10-May-23	10-May-23					
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
Hexachlorobenzene SVOC$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Phenol$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Isophorone$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w
Perylene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-052w

Envirolab Job Number: 23/04477

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04477/1	23/04477/2	23/04477/3	23/04477/4	23/04477/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH203	LK BH03					
Depth to Top	5.70	7.50	7.10	7.60	7.60					
Depth To Bottom										
Date Sampled	10-May-23	10-May-23	10-May-23	10-May-23	10-May-23					
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10	<10	<10			µg/l	10	A-T-006w
Vinyl Chloride$_A^{\#}$	1	<1	<1	<1	<1			µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	33	<1	2	<1	<1			µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5	<5	<5			µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	69	1	82	3	4			µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-006w
Chloroform$_A^{\#}$	<1	25	9	121	32			µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2	<2	<2	<2	<2			µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Benzene$_A^{\#}$	13	<1	2	<1	<1			µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	<1	159	22	107	48			µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10	<10	<10	<10	<10			µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	<1	3	221	200	39			µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	<1	<1	<1	3	<1			µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3	<3	<3	<3	<3			µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w

Envirolab Job Number: 23/04477

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04477/1	23/04477/2	23/04477/3	23/04477/4	23/04477/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH203	LK BH03					
Depth to Top	5.70	7.50	7.10	7.60	7.60					
Depth To Bottom										
Date Sampled	10-May-23	10-May-23	10-May-23	10-May-23	10-May-23					
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2	<2			µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2	<2	<2			µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3			µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3			µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1	<1			µg/l	1	A-T-006w

Envirolab Job Number: 23/04477

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04477/1	23/04477/2	23/04477/3	23/04477/4	23/04477/5			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH301	RBH302	RBH303	RBH203	LK BH03					
Depth to Top	5.70	7.50	7.10	7.60	7.60					
Depth To Bottom										
Date Sampled	10-May-23	10-May-23	10-May-23	10-May-23	10-May-23					
Sample Type	Water - GW	Water - GW	Water - GW	Water - GW	Water - GW					
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A					
TPH CWG (w) with Clean Up										
Ali >C5-C6 (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Total Aliphatics (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	Calc-As Recd
Aro >C5-C7 (w)$_A^{\#}$	11	<1	2	<1	<1			µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	<5	<5	<5	<5	<5			µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	<5	<5	<5	5	<5			µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	6	5	<5	10	<5			µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A$	<10	<10	<10	<10	<10			µg/l	10	A-T-055w
Total Aromatics (w)$_A$	17	<10	<10	15	<10			µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) (w)$_A$	17	<10	<10	15	<10			µg/l	10	Calc-As Recd
BTEX - Benzene (w)$_A^{\#}$	11	<1	2	<1	<1			µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1	<1	<1	<1	<1			µg/l	1	A-T-022w

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02 - NT04

Clients Project No: 4328

Project No: 23/04477

Date Received: 11/05/2023 (am)

Cool Box Temperatures (°C): 11.0 & 11.4

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/04477/1	23/04477/2	23/04477/3	23/04477/4	23/04477/5
Client Sample No					
Client Sample ID/Depth	RBH301 5.70m	RBH302 7.50m	RBH303 7.10m	RBH203 7.60m	LK BH03 7.60m
Date Sampled	10/05/23	10/05/23	10/05/23	10/05/23	10/05/23
A-T-006w	19/05/2023	19/05/2023	19/05/2023	19/05/2023	19/05/2023
A-T-019w	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023
A-T-022w	17/05/2023	17/05/2023	17/05/2023	17/05/2023	17/05/2023
A-T-025w	17/05/2023	17/05/2023	17/05/2023	17/05/2023	17/05/2023
A-T-026w	17/05/2023	17/05/2023	17/05/2023	17/05/2023	17/05/2023
A-T-031w	17/05/2023	17/05/2023	17/05/2023	17/05/2023	17/05/2023
A-T-032w	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
A-T-034w	17/05/2023	19/05/2023	19/05/2023	17/05/2023	17/05/2023
A-T-048	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023
A-T-049w	16/05/2023	16/05/2023	16/05/2023	16/05/2023	16/05/2023
A-T-050w	19/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
A-T-052w	17/05/2023	17/05/2023	17/05/2023	17/05/2023	17/05/2023
A-T-055w	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023
Calc-As Recd	18/05/2023	18/05/2023	18/05/2023	18/05/2023	18/05/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT
SUPPLEMENT TO TEST REPORT 23/04510/1

Amendments: Request for project/sample information change

Envirolab Job Number: 23/04510
Issue Number: 2 **Date:** 14 July, 2023

Client:
ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Linden Richardson/Reece McGuinness
Project Name: Plots NT02 - NT04
Project Ref: 4328
Order No: 1858
Date Samples Received: 11/05/23
Date Instructions Received: 11/05/23
Date Analysis Completed: 22/05/23

Approved by:



Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 23/04510

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04510/1	23/04510/2	23/04510/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	RBH306	SS304							
Depth to Top	6.50	6.00								
Depth To Bottom										
Date Sampled	11-May-23	11-May-23	11-May-23							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
pH (w)$_{A}^{\#}$	7.64	7.24	8.03					pH	0.01	A-T-031w
Dissolved Oxygen$_{A}$	9.6	3.5	9.9					mg/l	0.5	A-T-048
COD (settled)$_{A}^{\#}$	15	84	26					mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	<1	4	2					mg/l	1	A-T-048
Hardness Total$_{A}^{\#}$	477	588	166					mg/l Ca CO3	2	A-T-049w
Sulphate (w)$_{A}^{\#}$	245	480	50					mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	3.3	20.5	3.2					mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	2	8	2					µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	<0.2					µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	155	167	52					mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	<4	<4	4					µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	7	2	7					µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	<1	<1					µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1					µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	7	18	<2					µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	3	<1	<1					µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	9	9	18					µg/l	2	A-T-025w

Envirolab Job Number: 23/04510

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04510/1	23/04510/2	23/04510/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	RBH306	SS304							
Depth to Top	6.50	6.00								
Depth To Bottom										
Date Sampled	11-May-23	11-May-23	11-May-23							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	<0.01	0.04	0.01					µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01					µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	<0.01	0.04	0.01					µg/l	0.01	A-T-019w
Phenols (speciated HPLC) (w)										
Phenol (w)$_A$	<0.01	<0.01	<0.01					mg/l	0.01	A-T-050w
Cresols (w)$_A$	<0.01	<0.01	<0.01					mg/l	0.01	A-T-050w
Xylenols (w)$_A$	<0.01	<0.01	<0.01					mg/l	0.01	A-T-050w
Resorcinol (w) $_A$	<0.01	<0.01	<0.01					mg/l	0.01	A-T-050w
Phenols - Total by HPLC (w)$_A$	<0.01	<0.01	<0.01					mg/l	0.01	A-T-050w

Envirolab Job Number: 23/04510

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04510/1	23/04510/2	23/04510/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	RBH306	SS304							
Depth to Top	6.50	6.00								
Depth To Bottom										
Date Sampled	11-May-23	11-May-23	11-May-23							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
SVOC (excluding PAH-16) (w)										
1,2,4-Trichlorobenzene$_A$	<1	<1	<1					µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	<1	<1					µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	<1	<1					µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Methylphenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	<1	<1					µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	<1	<1					µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	<1	<1					µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	<1	<1					µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	<10	<10					µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1	<1	<1					µg/l	1	A-T-052w
Carbazole$_A$	<1	<1	<1					µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	<1	<1					µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	<1	<1					µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	<10	<10					µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	<1	<1					µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	<1	<1					µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	<1	<1					µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	<1	<1					µg/l	1	A-T-052w

Envirolab Job Number: 23/04510

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04510/1	23/04510/2	23/04510/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	RBH306	SS304							
Depth to Top	6.50	6.00								
Depth To Bottom										
Date Sampled	11-May-23	11-May-23	11-May-23							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
Hexachlorobenzene SVOC$_A$	<1	<1	<1					µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	<1	<1					µg/l	1	A-T-052w
Phenol$_A$	<1	<1	<1					µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	<1	<1					µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	<1	<1					µg/l	1	A-T-052w
Isophorone$_A$	<1	<1	<1					µg/l	1	A-T-052w
Perylene$_A$	<1	<1	<1					µg/l	1	A-T-052w

Envirolab Job Number: 23/04510

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04510/1	23/04510/2	23/04510/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	RBH306	SS304							
Depth to Top	6.50	6.00								
Depth To Bottom										
Date Sampled	11-May-23	11-May-23	11-May-23							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1					µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10					µg/l	10	A-T-006w
Vinyl Chloride$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5					µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5	<5	<5					µg/l	5	A-T-006w
Chloroform$_A^{\#}$	2	<1	<1					µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2	<2	<2					µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Benzene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10	<10	<10					µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3	<3	<3					µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1	<1	<1					µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1					µg/l	1	A-T-006w

Envirolab Job Number: 23/04510

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04510/1	23/04510/2	23/04510/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	RBH306	SS304							
Depth to Top	6.50	6.00								
Depth To Bottom										
Date Sampled	11-May-23	11-May-23	11-May-23							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1					µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Styrene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1					µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2					µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2					µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3					µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3					µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1					µg/l	1	A-T-006w

Envirolab Job Number: 23/04510

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/04510/1	23/04510/2	23/04510/3					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH305	RBH306	SS304							
Depth to Top	6.50	6.00								
Depth To Bottom										
Date Sampled	11-May-23	11-May-23	11-May-23							
Sample Type	WATER - GW	WATER - GW	WATER - GW							
Sample Matrix Code	N/A	N/A	N/A							
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	<5	<5					µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5	<5	<5					µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5	<5	<5					µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	6	<5					µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	7	<5					µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	<5	8	8					µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10	<10	<10					µg/l	10	A-T-055w
Total Aromatics $(w)_A$	<10	21	<10					µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	<10	21	<10					µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1	<1					µg/l	1	A-T-022w

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02 - NT04

Clients Project No: 4328

Project No: 23/04510

Date Received: 11/05/2023 (pm)

Cool Box Temperatures (°C): 16.8

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/04510/1	23/04510/2	23/04510/3
Client Sample No			
Client Sample ID/Depth	RBH305 6.50m	RBH306 6.00m	SS304
Date Sampled	11/05/23	11/05/23	11/05/23
A-T-006w	22/05/2023	22/05/2023	22/05/2023
A-T-019w	16/05/2023	16/05/2023	16/05/2023
A-T-022w	17/05/2023	17/05/2023	17/05/2023
A-T-025w	15/05/2023	15/05/2023	15/05/2023
A-T-026w	15/05/2023	15/05/2023	15/05/2023
A-T-031w	15/05/2023	15/05/2023	15/05/2023
A-T-032w	17/05/2023	17/05/2023	17/05/2023
A-T-034w	15/05/2023	15/05/2023	15/05/2023
A-T-048	17/05/2023	17/05/2023	17/05/2023
A-T-049w	15/05/2023	15/05/2023	15/05/2023
A-T-050w	22/05/2023	22/05/2023	22/05/2023
A-T-052w	17/05/2023	17/05/2023	17/05/2023
A-T-055w	18/05/2023	18/05/2023	18/05/2023
Calc-As Recd	18/05/2023	18/05/2023	18/05/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Element Materials Technology
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Zone 3
Deeside Industrial Park
Deeside
CH5 2UA

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RSK Group Plc
Abbey Park
Humber Road
Coventry
United Kingdom
CV3 4AQ

Attention :	Gerry Whittall
Date :	23rd May, 2023
Your reference :	4328
Our reference :	Test Report 23/7284 Batch 1
Location :	Dantzic St.
Date samples received :	10th May, 2023
Status :	Final Report
Issue :	1

Four samples were received for analysis on 10th May, 2023 of which three were scheduled for analysis. Please find attached our Test Report which should be read with notes at the end of the report and should include all sections if reproduced. Interpretations and opinions are outside the scope of any accreditation, and all results relate only to samples supplied.
All analysis is carried out on as received samples and reported on a dry weight basis unless stated otherwise. Results are not surrogate corrected.

Authorised By:



Simon Gomery BSc
Project Manager

Please include all sections of this report if it is reproduced

Element Materials Technology

Client Name: RSK Group Plc
Reference: 4328
Location: Dantzic St.
Contact: Gerry Whittall

Sample Date: 2 May 2023
Date of Receipt: 10 May 2023
Date Analysed: 22 May 2023

Sample ID: WS303
Depth:
EMT Job No: 23/7284
EMT Sample No: 1
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 20267 0.55
Sample Train Serial number: ST-237

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m^3	RL ppbv	MDL ppbv	RL ug/m^3	MDL ug/m^3
75-01-4	62.5	# Vinyl Chloride		2.5	6.4	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		<2.5	<12.4	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		<1.5	<3.1	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		5	19.8	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		11.6	46	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		134	531	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		762.4	3722.7	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		1.8	9.8	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		3787.1$_{AA}$	23827.6$_{AA}$	<150.0	<1.5	<940.0	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		113.7	363.2	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		24139.5$_{AA}$	129726.5$_{AA}$	<150.0	<1.5	<810.0	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		58.2	219.3	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		6.7	45.4	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		2	9.2	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		37.8	164.1	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		58.9	255.8	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		56.1	243.6	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		41.6	177.2	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		4.1	20.2	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: RSK Group Plc
Reference: 4328
Location: Dantzic St.
Contact: Gerry Whittall

Sample Date: 2 May 2023
Date of Receipt: 10 May 2023
Date Analysed: 22 May 2023

Sample ID: WS303
Depth:
EMT Job No: 23/7284
EMT Sample No: 1
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 20267 0.55
Sample Train Serial number: ST-237

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m^3	RL ppbv	MDL ppbv	RL ug/m^3	MDL ug/m^3
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		**<1.5**	**<10.3**	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		**<1.5**	**<9.6**	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		**<1.5**	**<7.4**	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		**<1.5**	**<7.8**	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		**25.8**	**126.8**	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		**<1.5**	**<7.8**	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		**32.7**	**160.7**	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		**5.5**	**33.1**	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		**<1.5**	**<14.5**	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		**<1.5**	**<11.1**	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		**<1.5**	**<16.0**	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		**2.78**	**14.6**	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		**<1.5**	**<11.1**	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		**<1.5**	**<5.4**	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		**29289.78**	**159723**				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		**98%**		0%	0%		

Element Materials Technology

Client Name: RSK Group Plc
Reference: 4328
Location: Dantzic St.
Contact: Gerry Whittall

Sample Date: 2 May 2023
Date of Receipt: 10 May 2023
Date Analysed: 22 May 2023

Sample ID: WS309
Depth:
EMT Job No: 23/7284
EMT Sample No: 2
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 20298 0.55
Sample Train Serial number: ST-251

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m^3	RL ppbv	MDL ppbv	RL ug/m^3	MDL ug/m^3
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		<2.5	<12.4	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		4.3	8.9	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		1.8	4.7	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		<1.5	<8.4	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		1.9	7.5	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		7.8	30.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		63	250	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		442.4	2160.2	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		1817.9$_{AA}$	11437.9$_{AA}$	<150.0	<1.5	<940.0	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		34.2	109.3	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		18657.3$_{AA}$	100265.0$_{AA}$	<150.0	<1.5	<810.0	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		66.3	249.8	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		11.7	79.4	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		3.9	18	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		12.6	54.7	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		24.9	108.1	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		26.2	113.8	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		77.4	329.7	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: RSK Group Plc
Reference: 4328
Location: Dantzic St.
Contact: Gerry Whittall

Sample Date: 2 May 2023
Date of Receipt: 10 May 2023
Date Analysed: 22 May 2023

Sample ID: WS309
Depth:
EMT Job No: 23/7284
EMT Sample No: 2
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 20298 0.55
Sample Train Serial number: ST-251

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m^3	RL ppbv	MDL ppbv	RL ug/m^3	MDL ug/m^3
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		**<1.5**	**<10.3**	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		**<1.5**	**<9.6**	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		**<1.5**	**<7.4**	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		**<1.5**	**<7.8**	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		**2.4**	**11.8**	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		**<1.5**	**<7.8**	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		**<1.5**	**<7.4**	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		**10.8**	**64.9**	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		**<1.5**	**<14.5**	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		**<1.5**	**<11.1**	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		**<1.5**	**<16.0**	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		**0.42**	**2.2**	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		**<1.5**	**<11.1**	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		**<1.5**	**<5.4**	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		**21267.22**	**115306.8**				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		**96%**		0%	0%		

Element Materials Technology

Client Name: RSK Group Plc
Reference: 4328
Location: Dantzic St.
Contact: Gerry Whittall

Sample Date: 2 May 2023
Date of Receipt: 10 May 2023
Date Analysed: 22 May 2023

Sample ID: WS301
Depth:
EMT Job No: 23/7284
EMT Sample No: 4
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 20257 0.55
Sample Train Serial number: ST-236

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m^3	RL ppbv	MDL ppbv	RL ug/m^3	MDL ug/m^3
75-01-4	62.5	# Vinyl Chloride		<1.5	<3.8	<1.5	<1.5	<3.8	<3.8
75-71-8	120.91	Dichlorodifluoromethane (F-12)		<2.5	<12.4	<2.5	<2.5	<12.4	<12.4
74-87-3	50.49	Chloromethane		<1.5	<3.1	<1.5	<1.5	<3.1	<3.1
74-83-9	94.95	# Bromomethane		<1.5	<5.8	<1.5	<1.5	<5.8	<5.8
75-00-3	64.52	# Chloroethane		<1.5	<4.0	<1.5	<1.5	<4.0	<4.0
75-69-4	137.36	# Trichlorofluoromethane (F-11)		1.9	10.7	<1.5	<1.5	<8.4	<8.4
75-35-4	96.95	1,1-Dichloroethene (1,1 DCE)		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-09-2	84.93	# Dichloromethane (DCM)		<14.4	<50	<14.4	<14.4	<50	<50
156-60-5	96.94	Trans-1,2-Dichloroethene		<1.5	<5.9	<1.5	<1.5	<5.9	<5.9
75-34-3	98.97	# 1,1-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
156-59-2	96.94	# cis-1,2-Dichloroethene		<1	<4	<1	<1	<4	<4
594-20-7	112.99	2,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-97-5	129.38	Bromochloromethane (Int Std)		NA	NA	<1.5	<1.5	<7.9	<7.9
67-66-3	119.39	# Chloroform		14.8	72.3	<1.5	<1.5	<7.3	<7.3
71-55-6	133.42	# 1,1,1-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
563-58-6	110.97	1,1-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
56-23-5	153.84	# Carbon Tetrachloride		31.7	199.4	<1.5	<1.5	<9.4	<9.4
107-06-2	98.96	# 1,2-Dichloroethane		<1.5	<6.1	<1.5	<1.5	<6.1	<6.1
71-43-2	78.11	# Benzene		<1.5	<4.8	<1.5	<1.5	<4.8	<4.8
79-01-6	131.4	# Trichloroethene (TCE)		445.3	2393.1	<1.5	<1.5	<8.1	<8.1
78-87-5	112.99	# 1,2-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
74-95-3	173.83	Dibromomethane		<1.5	<10.7	<1.5	<1.5	<10.7	<10.7
75-27-4	163.83	Bromodichloromethane		<1.5	<10.1	<1.5	<1.5	<10.1	<10.1
10061-01-5	110.97	cis-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
108-88-3	92.13	# Toluene		<1.5	<5.7	<1.5	<1.5	<5.7	<5.7
10061-02-6	110.97	trans-1,3-Dichloropropene		<1.5	<6.8	<1.5	<1.5	<6.8	<6.8
79-00-5	133.4	# 1,1,2-Trichloroethane		<1.5	<8.2	<1.5	<1.5	<8.2	<8.2
127-18-4	165.85	# Tetrachloroethene (PCE)		<1.5	<10.2	<1.5	<1.5	<10.2	<10.2
142-28-9	112.99	1,3-Dichloropropane		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
124-48-1	208.28	Dibromochloromethane		<1.5	<12.8	<1.5	<1.5	<12.8	<12.8
106-93-4	187.86	# 1,2-Dibromoethane		<1.5	<11.5	<1.5	<1.5	<11.5	<11.5
108-90-7	112.56	# Chlorobenzene		<1.5	<6.9	<1.5	<1.5	<6.9	<6.9
630-20-6	167.85	1,1,1,2-Tetrachloroethane		<1.5	<10.3	<1.5	<1.5	<10.3	<10.3
100-41-4	106.16	# Ethylbenzene		<1.5	<6.5	<1.5	<1.5	<6.5	<6.5
179601-23-1	106.17	# m/p-Xylene		<1.5	<6.5	<1.5	<1.5	<6.5	<6.5
95-47-6	106.17	# o-Xylene		<1.5	<6.5	<1.5	<1.5	<6.5	<6.5
100-42-5	104.14	# Styrene		<1.5	<6.4	<1.5	<1.5	<6.4	<6.4
75-25-2	252.77	Bromoform		<1.5	<15.5	<1.5	<1.5	<15.5	<15.5
98-82-8	120.19	Isopropylbenzene		<1.5	<7.4	<1.5	<1.5	<7.4	<7.4

Element Materials Technology

Client Name: RSK Group Plc
Reference: 4328
Location: Dantzic St.
Contact: Gerry Whittall

Sample Date: 2 May 2023
Date of Receipt: 10 May 2023
Date Analysed: 22 May 2023

Sample ID: WS301
Depth:
EMT Job No: 23/7284
EMT Sample No: 4
Matrix: Air
Method: TM68 VOCs in gases (GC-MS)

Canister Serial number: V 20257 0.55
Sample Train Serial number: ST-236

Q* - Qualifiers

B Indicates analyte found in associated method blank
>> Indicates value exceeds calibration range

Key

MDL Method Detection Limit
RL Reporting Limit
ISO 17025 (UKAS) accredited

Cas No	Molecular Weight	Compound	Q*	RESULT ppbv	RESULT ug/m^3	RL ppbv	MDL ppbv	RL ug/m^3	MDL ug/m^3
79-34-5	167.85	# 1,1,2,2-Tetrachloroethane		**<1.5**	**<10.3**	<1.5	<1.5	<10.3	<10.3
108-86-1	157.01	Bromobenzene		**<1.5**	**<9.6**	<1.5	<1.5	<9.6	<9.6
96-18-4	147.43	1,2,3-Trichloropropane		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
103-65-1	120.19	Propylbenzene		**<1.5**	**<7.4**	<1.5	<1.5	<7.4	<7.4
95-49-8	126.58	2-Chlorotoluene		**<1.5**	**<7.8**	<1.5	<1.5	<7.8	<7.8
108-67-8	120.2	# 1,3,5-Trimethylbenzene		**<1.5**	**<7.4**	<1.5	<1.5	<7.4	<7.4
106-43-4	126.58	4-Chlorotoluene		**<1.5**	**<7.8**	<1.5	<1.5	<7.8	<7.8
98-06-6	134.22	Tert-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
95-63-6	120.19	# 1,2,4-Trimethylbenzene		**<1.5**	**<7.4**	<1.5	<1.5	<7.4	<7.4
135-98-8	134.22	Sec-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
99-87-6	134.22	4-Isopropyltoluene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
106-46-7	147.01	# 1,4-Dichlorobenzene		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
541-73-1	147.01	# 1,3-Dichlorobenzene		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
104-51-8	134.22	n-Butylbenzene		**<1.5**	**<8.2**	<1.5	<1.5	<8.2	<8.2
95-50-1	147	# 1,2-Dichlorobenzene		**<1.5**	**<9.0**	<1.5	<1.5	<9.0	<9.0
96-12-8	236.33	1,2-Dibromo-3-chloropropane		**<1.5**	**<14.5**	<1.5	<1.5	<14.5	<14.5
120-82-1	181.46	1,2,4-Trichlorobenzene		**<1.5**	**<11.1**	<1.5	<1.5	<11.1	<11.1
87-68-3	260.76	Hexachlorobutadiene		**<1.5**	**<16.0**	<1.5	<1.5	<16.0	<16.0
91-20-3	128.17	Naphthalene		**<0.32**	**<1.7**	<0.32	<0.32	<1.7	<1.7
87-61-6	181.45	1,2,3-Trichlorobenzene		**<1.5**	**<11.1**	<1.5	<1.5	<11.1	<11.1
1634-04-4	88.15	Methyl tertiary butyl ether		**<1.5**	**<5.4**	<1.5	<1.5	<5.4	<5.4
		Sum of VOC USEPA compounds		**493.7**	**2675.5**				
460-00-4		4-Bromofluorobenzene Surrogate Recovery		**91%**		0%	0%		

Client Name: RSK Group Plc
Reference: 4328
Location: Dantzic St.
Contact: Gerry Whittall

EMT Job No.	Batch	Sample ID	Depth	EMT Sample No.	Analysis	Reason
No deviating sample report results for job 23/7284						

Please note that only samples that are deviating are mentioned in this report. If no samples are listed it is because none were deviating.
Only analyses which are accredited are recorded as deviating if set criteria are not met.

Please include all sections of this report if it is reproduced

NOTES TO ACCOMPANY ALL SCHEDULES AND REPORTS

EMT Job No.: 23/7284

SOILS and ASH

Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation.

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation has been performed on clay, sand and loam, only samples that are predominantly these matrices, or combinations of them will be within our MCERTS scope. If samples are not one of a combination of the above matrices they will not be marked as MCERTS accredited.

It is assumed that you have taken representative samples on site and require analysis on a representative subsample. Stones will generally be included unless we are requested to remove them.

All samples will be discarded one month after the date of reporting, unless we are instructed to the contrary. Asbestos samples are retained for 6 months.

If you have not already done so, please send us a purchase order if this is required by your company.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

All analysis is reported on a dry weight basis unless stated otherwise. Limits of detection for analyses carried out on as received samples are not moisture content corrected. Results are not surrogate corrected. Samples are dried at 35°C ±5°C unless otherwise stated. Moisture content for CEN Leachate tests are dried at 105°C ±5°C. Ash samples are dried at 37°C ±5°C.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

Where a CEN 10:1 ZERO Headspace VOC test has been carried out, a 10:1 ratio of water to wet (as received) soil has been used.

% Asbestos in Asbestos Containing Materials (ACMs) is determined by reference to HSG 264 The Survey Guide - Appendix 2 : ACMs in buildings listed in order of ease of fibre release.

Sufficient amount of sample must be received to carry out the testing specified. Where an insufficient amount of sample has been received the testing may not meet the requirements of our accredited methods, as such accreditation may be removed.

Negative Neutralization Potential (NP) values are obtained when the volume of NaOH (0.1N) titrated (pH 8.3) is greater than the volume of HCl (1N) to reduce the pH of the sample to 2.0 - 2.5. Any negative NP values are corrected to 0.

The calculation of Pyrite content assumes that all oxidisable sulphides present in the sample are pyrite. This may not be the case. The calculation may be an overesitimate when other sulphides such as Barite (Barium Sulphate) are present.

WATERS

Please note we are not a UK Drinking Water Inspectorate (DWI) Approved Laboratory .

ISO17025 accreditation applies to surface water and groundwater and usually one other matrix which is analysis specific, any other liquids are outside our scope of accreditation.

As surface waters require different sample preparation to groundwaters the laboratory must be informed of the water type when submitting samples.

Where Mineral Oil or Fats, Oils and Grease is quoted, this refers to Total Aliphatics C10-C40.

STACK EMISSIONS

Where an MCERTS report has been requested, you will be notified within 48 hours of any samples that have been identified as being outside our MCERTS scope. As validation for Dioxins and Furans and Dioxin like PCBs has been performed on XAD-2 Resin, only samples which use this resin will be within our MCERTS scope.

Where appropriate please make sure that our detection limits are suitable for your needs, if they are not, please notify us immediately.

DEVIATING SAMPLES

All samples should be submitted to the laboratory in suitable containers with sufficient ice packs to sustain an appropriate temperature for the requested analysis. The temperature of sample receipt is recorded on the confirmation schedules in order that the client can make an informed decision as to whether testing should still be undertaken.

SURROGATES

Surrogate compounds are added during the preparation process to monitor recovery of analytes. However low recovery in soils is often due to peat, clay or other organic rich matrices. For waters this can be due to oxidants, surfactants, organic rich sediments or remediation fluids. Acceptable limits for most organic methods are 70 - 130% and for VOCs are 50 - 150%. When surrogate recoveries are outside the performance criteria but the associated AQC passes this is assumed to be due to matrix effect. Results are not surrogate corrected.

DILUTIONS

A dilution suffix indicates a dilution has been performed and the reported result takes this into account. No further calculation is required.

BLANKS

Where analytes have been found in the blank, the sample will be treated in accordance with our laboratory procedure for dealing with contaminated blanks.

NOTE

Data is only reported if the laboratory is confident that the data is a true reflection of the samples analysed. Data is only reported as accredited when all the requirements of our Quality System have been met. In certain circumstances where all the requirements of the Quality System have not been met, for instance if the associated AQC has failed, the reason is fully investigated and documented. The sample data is then evaluated alongside the other quality control checks performed during analysis to determine its suitability. Following this evaluation, provided the sample results have not been effected, the data is reported but accreditation is removed. It is a requirement of our Accreditation Body for data not reported as accredited to be considered indicative only, but this does not mean the data is not valid.
Where possible, and if requested, samples will be re-extracted and a revised report issued with accredited results. Please do not hesitate to contact the laboratory if further details are required of the circumstances which have led to the removal of accreditation.
Laboratory records are kept for a period of no less than 6 years.

REPORTS FROM THE SOUTH AFRICA LABORATORY

Any method number not prefixed with SA has been undertaken in our UK laboratory unless reported as subcontracted.

Measurement Uncertainty

Measurement uncertainty defines the range of values that could reasonably be attributed to the measured quantity. This range of values has not been included within the reported results. Uncertainty expressed as a percentage can be provided upon request.

Customer Provided Information

Sample ID and depth is information provided by the customer.

ABBREVIATIONS and ACRONYMS USED

#	ISO17025 (UKAS Ref No. 4225) accredited - UK.
SA	ISO17025 (SANAS Ref No.T0729) accredited - South Africa
B	Indicates analyte found in associated method blank.
DR	Dilution required.
M	MCERTS accredited.
NA	Not applicable
NAD	No Asbestos Detected.
ND	None Detected (usually refers to VOC and/SVOC TICs).
NDP	No Determination Possible
SS	Calibrated against a single substance
SV	Surrogate recovery outside performance criteria. This may be due to a matrix effect.
W	Results expressed on as received basis.
+	AQC failure, accreditation has been removed from this result, if appropriate, see 'Note' on previous page.
>>	Results above quantitative calibration range. The result should be considered the minimum value and is indicative only. The actual result could be significantly higher.
*	Analysis subcontracted to an Element Materials Technology approved laboratory.
AD	Samples are dried at 35°C ±5°C
CO	Suspected carry over
LOD/LOR	Limit of Detection (Limit of Reporting) in line with ISO 17025 and MCERTS
ME	Matrix Effect
NFD	No Fibres Detected
BS	AQC Sample
LB	Blank Sample
N	Client Sample
TB	Trip Blank Sample
OC	Outside Calibration Range
AA	x100 Dilution

HWOL ACRONYMS AND OPERATORS USED

HS	Headspace Analysis.
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent.
CU	Clean-up - e.g. by florisil, silica gel.
1D	GC - Single coil gas chromatography.
Total	Aliphatics & Aromatics.
AL	Aliphatics only.
AR	Aromatics only.
2D	GC-GC - Double coil gas chromatography.
#1	EH_Total but with humics mathematically subtracted
#2	EU_Total but with fatty acids mathematically subtracted
_	Operator - underscore to separate acronyms (exception for +).
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry.

EMT Job No: 23/7284

Test Method No.	Description	Prep Method No. (if appropriate)	Description	ISO 17025 (UKAS/SANAS)	MCERTS (UK soils only)	Analysis done on As Received (AR) or Dried (AD)	Reported on dry weight basis
TM68	Modified TO-15 method. Volatile Organic Compounds (VOCs) sampled using Gas Canisters, BottleVacs or Tedlar bags and analysed using Entech GC-MS.	PM0	No preparation is required.				
TM68	Modified TO-15 method. Volatile Organic Compounds (VOCs) sampled using Gas Canisters, BottleVacs or Tedlar bags and analysed using Entech GC-MS.	PM0	No preparation is required.	Yes			

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

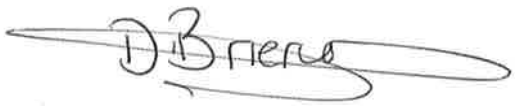
FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/03602
Issue Number: 1 **Date:** 04 May, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Linden Richardson/Reece McGuinness
Project Name: Plots NT02-04
Project Ref: 4328
Order No: 4328
Date Samples Received: 06/04/23
Date Instructions Received: 17/04/23
Date Analysis Completed: 04/05/23

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
% Stones >10mm$_A$	39.6	12.6	<0.1	1.8	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.55	8.32	7.97	8.88	10.38	10.39	9.46	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	251	95	14	<10	174	537	1390	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	2	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0387	0.0933	0.0078	0.0057	0.0610	0.0203	0.0287	N/A	0.0003	A-T-032s
Antimony$_D$	6	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	25	25	<1	<1	21	15	33	mg/kg	1	A-T-024s
Barium$_D$	355	154	103	37	159	511	402	mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	1.0	1.0	0.7	0.7	1.1	0.7	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0	1.3	<1.0	1.6	1.0	2.6	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	3.1	2.0	0.8	<0.5	1.2	1.5	1.6	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	129	102	11	4	70	109	212	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	24	49	33	13	19	24	25	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	24	49	33	13	19	24	25	mg/kg	1	Calc
Lead$_D$$^{M\#}$	370	6640	31	17	191	381	503	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	<0.17	0.39	<0.17	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	2	3	<1	<1	2	6	2	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	48	38	25	10	28	51	29	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	1	<1	1	<1	<1	1	3	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	21	35	36	19	28	33	31	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	849	112	84	24	205	388	669	mg/kg	5	A-T-024s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	-	-	Chrysotile	Chrysotile	Chrysotile			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	Loose Fibres	Loose Fibres	Loose Fibres			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	-	-	N/A	N/A	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	-	-	-	<0.001	<0.001	<0.001	% w/w	0.001	A-T-054

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.02	5.19	4.49	105	5.47	0.13	0.06	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.05	0.11	0.12	0.89	0.31	0.03	0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.12	0.97	12.1	41.3	10.3	0.25	0.05	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.52	0.21	4.85	9.06	19.9	1.65	0.25	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.55	0.09	1.00	2.01	15.6	1.37	0.34	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.53	0.09	1.16	2.29	15.1	1.57	0.51	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.63	<0.05	0.21	0.61	6.61	0.57	0.39	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.25	<0.07	0.51	1.02	5.93	0.64	0.20	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.51	0.30	4.14	6.86	18.3	1.67	0.39	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.11	<0.04	0.11	0.24	1.54	0.14	0.07	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.85	0.72	16.1	44.7	37	3.27	0.49	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.02	3.58	4.74	55.5	4.24	0.08	0.02	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.63	0.04	0.30	0.87	8.11	0.73	0.43	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.07	21	45.7	382	3.73	0.11	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.55	5.82	21	303	51	1.04	0.38	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.80	0.62	13.9	41.5	42.5	3.84	0.58	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	6.21	38.7	130	997	246	17.1	4.17	mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	<0.2	<0.2	2.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	<0.2	<2.0	<2.0	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	4940	3370	57900	3350	<100	<100	µg/kg	100	A-T-052s
Carbazole$_A$	106	1410	8210	19800	3190	<100	<100	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	113	156	307	<1000	<1000	208	<100	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500	<10000	<5000	<500	<500	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	387	<2000	<100	<100	<100	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	1120	<20000	228	<100	<100	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	218	<2000	<100	<100	<100	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	3140	<2000	150	<100	<100	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	8250	6740	115000	2330	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	215	<2000	125	<100	<100	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
n-Dioctylphthalate$_A$	<500	<500	<500	<10000	<5000	<500	<500	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	101	119	259	<1000	<1000	126	159	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100	<2000	<100	<100	<100	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	<100	<100	<1000	<100	<100	<100	µg/kg	100	A-T-052s
Perylene$_A$	310	<100	576	<2000	6890	167	216	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
VOC										
Dichlorodifluoromethane$_{A}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<250	<10	<250	<10	<10	<10	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<125	<5	<125	<5	<5	<5	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<125	<5	<125	<5	<5	<5	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	<25	<1	<25	1	5	5	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	<25	<1	<25	2	9	34	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<50	<2	<50	<2	<2	<2	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	15	36	7	<25	60	427	569	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<250	<10	<250	<10	<10	<10	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<25	21	<25	<1	<1	<1	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<25	<1	<25	<1	1	1	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<75	<3	<75	<3	<3	<3	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
Chlorobenzene$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_A$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Ethylbenzene$_A^{\#}$	<1	72	46	<25	<1	<1	<1	µg/kg	1	A-T-006s
m & p Xylene$_A^{\#}$	<1	92	82	<25	<1	<1	<1	µg/kg	1	A-T-006s
o-Xylene$_A^{\#}$	<1	62	36	<25	<1	<1	<1	µg/kg	1	A-T-006s
Styrene$_A^{\#}$	<1	<25	2	<25	<1	<1	<1	µg/kg	1	A-T-006s
Bromoform$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Isopropylbenzene$_A^{\#}$	<1	<25	5	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_A$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
Bromobenzene$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
n-Propylbenzene$_A^{\#}$	<1	<25	4	<25	<1	<1	<1	µg/kg	1	A-T-006s
2-Chlorotoluene$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^{\#}$	<1	49	15	107	<1	<1	<1	µg/kg	1	A-T-006s
4-Chlorotoluene$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
tert-Butylbenzene$_A^{\#}$	<2	<50	<2	<50	<2	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_A^{\#}$	<1	163	47	256	<1	<1	<1	µg/kg	1	A-T-006s
sec-Butylbenzene$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^{\#}$	<1	<25	2	71	<1	<1	<1	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_A$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
n-Butylbenzene$_A^{\#}$	<1	<25	1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_A^{\#}$	<1	<25	<1	<25	<1	<1	<1	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_A$	<2	<50	<2	<50	<2	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_A$	<3	<75	<3	<75	<3	<3	<3	µg/kg	3	A-T-006s
Hexachlorobutadiene$_A^{\#}$	<1	<25	<1	<25	<1	1	2	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_A$	<3	<75	<3	<75	<3	<3	<3	µg/kg	3	A-T-006s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS303	WS303	WS303	WS303	WS305	WS305	WS308			
Depth to Top	0.40	1.20	1.80	3.10	0.50	1.00	0.60			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	5AB	5A	1A	1AB	1A	4AB			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<10	<10	<20	<20	<10	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<10	<10	34	51	<10	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	10	45	261	221	15	5	12	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	30	76	463	309	24	14	36	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	1690	893	4550	1370	72	65	137	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	431	245	1020	188	88	23	52	mg/kg	1	A-T-055s
Total Aliphatics$_A$	2160	1260	6320	2140	198	106	236	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	0.16	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<10	14	37	25	15	1	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<10	137	229	1020	64	1	1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	18	266	451	2450	255	7	11	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	116	162	750	1720	860	34	33	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	332	176	836	487	1780	78	65	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	211	18	<20	<20	<10	<1	2	mg/kg	1	A-T-055s
Total Aromatics$_A$	676	774	2300	5690	2970	121	113	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	2840	2030	8620	7830	3160	227	349	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	0.16	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	0.02	0.35	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	0.03	0.65	0.02	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	0.03	0.37	0.03	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
% Stones >10mm$_A$	<0.1	12.2	<0.1	15.8	<0.1	<0.1	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.43	8.35	8.29	8.22	8.40	8.45	7.97	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	296	106	78	36	20	246	196	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	2	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0369	0.0071	0.0053	0.0019	0.0009	0.0373	0.0031	N/A	0.0003	A-T-032s
Antimony$_D$	13	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	177	9	1	6	<1	14	<1	mg/kg	1	A-T-024s
Barium$_D$	314	58	125	49	26	82	88	mg/kg	1	A-T-024s
Beryllium$_D$	0.8	<0.5	0.8	<0.5	<0.5	<0.5	0.6	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	1.3	<1.0	2.2	<1.0	<1.0	2.1	1.9	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	4.7	0.6	<0.5	0.7	<0.5	<0.5	<0.5	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	202	15	17	13	5	38	9	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	24	14	30	13	7	16	29	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	24	14	30	13	7	16	29	mg/kg	1	Calc
Lead$_D$$^{M\#}$	269	40	30	9	25	126	13	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	<0.17	<0.17	0.34	<0.17	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	7	<1	<1	<1	<1	1	<1	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	106	17	29	17	8	14	19	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	3	2	1	<1	<1	1	2	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	35	17	30	17	10	19	32	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	675	51	48	33	16	44	52	mg/kg	5	A-T-024s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	Chrysotile & Anthophyllite	-	NAD	-	-	Chrysotile	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	Loose Fibres	-	-	-	-	Loose Fibres	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	-	N/A	-	-	N/A	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	0.013	-	-	-	-	0.003	-	% w/w	0.001	A-T-054

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.06	<0.01	<0.01	<0.01	<0.01	0.06	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.16	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.16	<0.02	<0.02	<0.02	<0.02	0.11	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	1.17	<0.04	<0.04	<0.04	<0.04	0.38	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.46	<0.04	<0.04	<0.04	<0.04	0.41	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	2.25	<0.05	<0.05	<0.05	<0.05	0.42	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	1.33	<0.05	<0.05	<0.05	<0.05	0.24	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.89	<0.07	<0.07	<0.07	<0.07	0.18	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.59	<0.06	<0.06	<0.06	<0.06	0.41	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.27	<0.04	<0.04	<0.04	<0.04	0.05	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	1.78	<0.08	<0.08	<0.08	<0.08	0.75	<0.08	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.03	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	1.53	<0.03	<0.03	<0.03	<0.03	0.27	<0.03	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	1.16	0.09	<0.03	<0.03	<0.03	0.50	<0.03	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	2.50	<0.07	<0.07	<0.07	<0.07	0.72	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	16.3	0.09	<0.08	<0.08	<0.08	4.54	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500	<500	<500	<500	<500	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	174	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	331	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
n-Dioctylphthalate$_A$	<500	<500	<500	<500	<500	<500	<500	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	285	<100	<100	<100	108	<100	121	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Hexachloroethane$_A$	772	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	1650	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Perylene$_A$	1090	<100	<100	<100	<100	427	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10	<10	<10	<10	<10	<250	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5	<5	<5	<5	<5	<125	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5	<5	<5	<5	<5	<125	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	13	<1	1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	38	<1	1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2	<2	<2	<2	<2	<50	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	1130	39	72	15	3	4	602	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10	<10	<10	<10	<10	<250	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	5	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	5	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3	<3	<3	<3	<3	<75	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
Chlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	7	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	<2	<2	<2	<2	<50	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	<2	<2	<2	<2	<50	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	<3	<3	<3	<3	<75	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	25	<1	<1	<1	<1	<1	<25	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	<3	<3	<3	<3	<75	µg/kg	3	A-T-006s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03602/13	23/03602/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS308	WS308	WS309	WS309	WS309	WS302	WS302			
Depth to Top	1.00	2.00	0.70	1.90	2.50	0.50	1.50			
Depth To Bottom										
Date Sampled	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4AB	1AB	5A	1AB	1A	4AB	5A			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<10	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<10	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	12	<1	<1	<1	<1	1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	30	<1	<1	<1	<1	2	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	377	14	<1	3	<1	49	<1	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	53	4	<1	<1	<1	4	<1	mg/kg	1	A-T-055s
Total Aliphatics$_A$	472	19	<1	3	<1	56	<1	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<10	<1	<1	<1	<1	1	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<10	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	53	3	<1	<1	<1	6	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	448	18	<1	<1	<1	30	<1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	837	26	<1	<1	<1	51	<1	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<10	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-055s
Total Aromatics$_A$	1340	48	<1	<1	<1	88	<1	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	1810	67	<1	3	<1	144	<1	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.05	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
% Stones >10mm$_A$	<0.1	8.5	<0.1	3.2	30.2	7.4	26.3	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.42	7.71	8.51	8.83	9.52	8.42	7.03	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	230	59	300	540	329	145	13	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0071	0.0021	0.0811	0.0530	0.0487	0.0248	0.0018	N/A	0.0003	A-T-032s
Antimony$_D$	<5	<5	7	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	4	3	39	13	16	4	<1	mg/kg	1	A-T-024s
Barium$_D$	136	52	945	227	213	71	29	mg/kg	1	A-T-024s
Beryllium$_D$	1.2	<0.5	1.8	1.4	1.1	<0.5	<0.5	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0	1.7	1.7	1.4	1.4	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	1.1	0.5	2.8	1.2	2.5	<0.5	<0.5	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	15	11	184	75	68	19	4	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	37	11	41	38	18	11	7	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	37	11	41	38	18	11	7	mg/kg	1	Calc
Lead$_D$$^{M\#}$	17	8	693	239	343	73	9	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	1.49	0.27	0.90	0.44	<0.17	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1	<1	6	2	3	<1	<1	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	36	14	52	39	26	13	7	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	1	<1	3	2	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	37	13	56	43	25	13	9	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	80	23	933	295	462	60	13	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	*	-	-	*	-	-	-			A-T-001
pH (leachable)$_A$$^{\#}$	7.07	-	-	7.51	-	-	-	pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	141.96	-	-	343.40	-	-	-	mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	4.3	-	-	4.2	-	-	-	mg/l	2	A-T-032w
Antimony (leachable)$_A$	<1	-	-	6	-	-	-	µg/l	1	A-T-025w
Arsenic (leachable)$_A$	<1	-	-	10	-	-	-	µg/l	1	A-T-025w
Boron (leachable)$_A$	72	-	-	105	-	-	-	µg/l	10	A-T-025w
Barium (leachable)$_A$	11	-	-	14	-	-	-	µg/l	1	A-T-025w
Beryllium (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-025w
Cadmium (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-025w

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
Copper (leachable)$_A$	<4	-	-	5	-	-	-	µg/l	4	A-T-025w
Chromium (leachable)$_A$	<1	-	-	19	-	-	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	<0.05	-	-	<0.05	-	-	-	mg/l	0.05	A-T-040w
Chromium (trivalent)	<0.05	-	-	<0.05	-	-	-	mg/l	0.05	Calc
Lead (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-025w
Mercury (leachable)$_A$	<0.1	-	-	<0.1	-	-	-	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	<1	-	-	30	-	-	-	µg/l	1	A-T-025w
Nickel (leachable)$_A$	2	-	-	<2	-	-	-	µg/l	2	A-T-025w
Selenium (leachable)$_A$	<1	-	-	6	-	-	-	µg/l	1	A-T-025w
Vanadium (leachable)$_A$	<1	-	-	8	-	-	-	µg/l	1	A-T-025w
Zinc (leachable)$_A$	4	-	-	<2	-	-	-	µg/l	2	A-T-025w
1,2,4-Trimethylbenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Styrene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	-	-	Crocidolite & Chrysotile	NAD	-	-	-			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	Loose Fibres	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	-	-	N/A	N/A	-	-	-			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	-	0.003	-	-	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	<0.01	4.83	1.44	1.62	14.2	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	0.14	0.11	0.09	0.55	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	<0.02	7.07	2.17	3.35	24	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	<0.04	8.98	4.21	6.86	38	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	<0.04	6.97	3.83	6.06	24.4	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	<0.05	6.98	3.93	5.73	25.3	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05	2.69	1.73	2.58	10.6	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	2.37	1.65	2.02	11.4	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	<0.06	8.72	4.32	6.33	46.5	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	0.64	0.39	0.57	3.05	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	<0.08	23.9	10.1	16.6	78.6	<0.08	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	3.68	1.01	1.06	11.1	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	<0.03	3.33	2.05	3.09	13.4	<0.03	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	5.01	1.35	0.24	8.77	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	<0.03	27.4	9.85	13.1	132	<0.03	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	<0.07	20.5	8.98	15.5	81.7	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	<0.08	<0.08	133	57.1	84.8	524	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	<0.02	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	<0.02	-	-	0.02	-	-	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	<0.02	-	-	0.02	-	-	-	µg/l	0.02	A-T-019w
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	<0.002	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	<100	<100	<1000	<100	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<100	<100	<1000	<100	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	5000	6400	544	13700	<100	µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	9750	3150	419	10900	<100	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<1000	<1000	<100	<1000	<100	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<5000	<5000	<500	<5000	<2500	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<100	<100	<1000	<100	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	273	246	<100	457	<100	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	111	<100	<100	155	<100	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<1000	<100	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<1000	<100	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	355	217	<100	557	<100	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	4780	7630	106	10700	<100	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100	<100	<100	173	<100	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	<100	<100	<100	<100	<1000	<100	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
n-Dioctylphthalate$_A$	<500	<500	<5000	<5000	<500	<5000	<500	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<1000	<1000	<100	<1000	<100	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100	<100	<100	117	<100	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	<100	<100	<100	<100	<100	<100	µg/kg	100	A-T-052s
Perylene$_A$	<100	<100	7840	2960	908	17700	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10	<10	<10	<10	<10	<10	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5	<5	<5	<5	<5	<5	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	2	2	2	2	2	<1	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	1	8	5	<1	<1	3	<1	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2	<2	<2	<2	<2	<2	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	21	94	67	26	17	43	<1	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10	<10	<10	<10	<10	<10	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3	<3	<3	<3	<3	<3	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
Chlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	<2	<2	<2	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	<2	<2	<2	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	<3	<3	<3	<3	<3	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	<3	<3	<3	<3	<3	µg/kg	3	A-T-006s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
VOC (leachable)										
Dibromochloromethane (leachable)$_A$	<3	-	-	<3	-	-	-	µg/l	3	A-T-006w
Dibromomethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Dichlorodifluoromethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Dichloromethane (leachable)$_A$	<5	-	-	<5	-	-	-	µg/l	5	A-T-006w
Ethylbenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
n-butylbenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
o-Xylene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
m & p Xylene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
sec-Butylbenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
tert-Butylbenzene (leachable)$_A$	<2	-	-	<2	-	-	-	µg/l	2	A-T-006w
Tetrachloroethene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Toluene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
trans 1,2-Dichloroethene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
trans 1,3-Dichloropropene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Trichloroethene (leachable)$_A$	69	-	-	2	-	-	-	µg/l	1	A-T-006w
Trichlorofluoromethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Vinyl Chloride (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1,1,2-Tetrachloroethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1,1-Trichloroethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1,2-Trichloroethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1-Dichloroethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1-Dichloroethene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1-Dichloropropene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,2,3-Trichlorobenzene (leachable)$_A$	<3	-	-	<3	-	-	-	µg/l	3	A-T-006w
1,2,3-Trichloropropane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,2,4-Trichlorobenzene (leachable)$_A$	<3	-	-	<3	-	-	-	µg/l	3	A-T-006w
1,2-Dibromo-3-chloropropane (leachable)$_A$	<2	-	-	<2	-	-	-	µg/l	2	A-T-006w
1,2-Dibromoethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,2-Dichlorobenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,2-Dichloroethane (leachable)$_A$	<2	-	-	<2	-	-	-	µg/l	2	A-T-006w
1,2-Dichloropropane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
1,3,5-Trimethylbenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,3-Dichlorobenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,3-Dichloropropane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,4-Dichlorobenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
2,2-Dichloropropane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
2-Chlorotoluene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
4-Chlorotoluene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
4-Isopropyltoluene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Benzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Bromobenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Bromochloromethane (leachable)$_A$	<5	-	-	<5	-	-	-	µg/l	5	A-T-006w
Bromodichloromethane (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-006w
Bromoform (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Bromomethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Carbon Tetrachloride (leachable)$_A$	4	-	-	<1	-	-	-	µg/l	1	A-T-006w
Chlorobenzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Chloroethane (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
Chloroform (leachable) $_A$	10	-	-	<1	-	-	-	µg/l	1	A-T-006w
Chloromethane (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-006w
cis 1,2-Dichloroethene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w
cis 1,3-Dichloropropene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	<2	-	-	<2	-	-	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	<2	-	-	<2	-	-	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	<20	-	-	<20	-	-	-	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	<20	-	-	<20	-	-	-	µg/l	10	Calc-As Recd
Aro >C5-C7 (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	<10	-	-	<10	-	-	-	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	<20	-	-	<20	-	-	-	µg/l	20	Calc-As Recd
TPH (Ali & Aro >C5-C44) (leachable)$_A$	<20	-	-	<20	-	-	-	µg/l	20	Calc-As Recd
BTEX - Benzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-022w
MTBE (leachable)$_A$	<1	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	<20	-	-	<20	-	-	-	µg/l	20	A-T-055w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS302	WS302	WS301	WS301	WS301	WS301	WS301			
Depth to Top	2.50	3.50	0.50	1.50	2.50	3.50	4.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	5A	1A	4AD	5AB	4AB	1AB	1A			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<50	1	<1	<10	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<50	1	<1	<10	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<50	5	<1	17	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<50	7	2	32	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	<1	<1	165	24	7	78	<1	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	<1	<1	101	21	11	67	<1	mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	<1	265	60	21	194	<1	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<50	2	<1	<10	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	425	10	<1	54	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	<1	1710	50	14	441	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	<1	3690	177	83	1250	<1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1	<1	4260	377	188	2120	<1	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<1	<1	<50	4	2	<10	<1	mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	<1	10100	619	288	3860	<1	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	<1	<1	10400	679	310	4060	<1	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
% Stones >10mm$_A$	<0.1	5.8	<0.1	23.7	3.9	<0.1	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.07	6.86	6.60	7.09	8.73	5.93	6.46	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	133	126	115	206	300	220	141	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0812	0.0145	0.0039	0.0348	0.0300	0.0027	0.0110	N/A	0.0003	A-T-032s
Antimony$_D$	<5	<5	<5	<5	<5	<5	<5	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	9	8	<1	11	9	2	1	mg/kg	1	A-T-024s
Barium$_D$	79	113	96	119	143	52	111	mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	0.9	0.9	0.7	0.8	0.6	0.9	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	0.8	0.6	0.6	0.6	<0.5	0.8	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	36	35	12	38	59	10	22	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	23	22	27	19	21	22	29	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	23	22	27	19	21	22	29	mg/kg	1	Calc
Lead$_D$$^{M\#}$	98	105	13	125	135	10	18	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17	<0.17	0.46	0.33	<0.17	<0.17	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	2	<1	<1	2	3	<1	<1	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	14	23	22	15	30	18	25	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	27	27	31	26	28	23	30	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	51	69	61	56	69	44	53	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	-	-	-	*	-	-	-			A-T-001
pH (leachable)$_A$$^{\#}$	-	-	-	7.93	-	-	-	pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	-	-	-	106.82	-	-	-	mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	-	-	-	6.5	-	-	-	mg/l	2	A-T-032w
Antimony (leachable)$_A$	-	-	-	4	-	-	-	µg/l	1	A-T-025w
Arsenic (leachable)$_A$	-	-	-	1	-	-	-	µg/l	1	A-T-025w
Boron (leachable)$_A$	-	-	-	61	-	-	-	µg/l	10	A-T-025w
Barium (leachable)$_A$	-	-	-	27	-	-	-	µg/l	1	A-T-025w
Beryllium (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-025w
Cadmium (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-025w

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
Copper (leachable)$_A$	-	-	-	4	-	-	-	µg/l	4	A-T-025w
Chromium (leachable)$_A$	-	-	-	1	-	-	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	-	-	<0.05	-	-	-	mg/l	0.05	A-T-040w
Chromium (trivalent)	-	-	-	<0.05	-	-	-	mg/l	0.05	Calc
Lead (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-025w
Mercury (leachable)$_A$	-	-	-	<0.1	-	-	-	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	-	-	-	7	-	-	-	µg/l	1	A-T-025w
Nickel (leachable)$_A$	-	-	-	<2	-	-	-	µg/l	2	A-T-025w
Selenium (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-025w
Vanadium (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-025w
Zinc (leachable)$_A$	-	-	-	4	-	-	-	µg/l	2	A-T-025w
1,2,4-Trimethylbenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	Amosite	NAD	-	NAD	NAD	NAD	-			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	Loose Fibres	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	-	N/A	N/A	N/A	-			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	<0.001	-	-	-	-	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.01	<0.01	<0.01	<0.01	0.03	<0.01	<0.01	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.04	<0.02	<0.02	<0.02	0.06	<0.02	<0.02	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.12	<0.04	<0.04	<0.04	0.07	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.16	<0.04	<0.04	0.05	0.07	<0.04	<0.04	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.18	<0.05	<0.05	0.05	0.07	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.11	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.09	<0.07	<0.07	<0.07	<0.07	<0.07	<0.07	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.13	<0.06	<0.06	<0.06	0.08	<0.06	<0.06	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.20	<0.08	<0.08	<0.08	0.17	<0.08	<0.08	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.12	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	<0.03	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.13	0.07	<0.03	0.05	0.18	<0.03	<0.03	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.21	<0.07	<0.07	0.07	0.16	<0.07	<0.07	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	1.50	<0.08	<0.08	0.22	0.90	<0.08	<0.08	mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	-	-	0.02	-	-	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	-	-	0.03	-	-	-	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	-	-	<0.02	-	-	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	-	-	0.02	-	-	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	-	-	0.03	-	-	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	-	-	0.08	-	-	-	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	-	-	0.02	-	-	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	-	-	0.20	-	-	-	µg/l	0.02	A-T-019w
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	<0.2	<0.2	<0.2	-	<0.2	<0.2	mg/kg	0.2	A-T-050s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	-	-	-	<0.002	-	-	-	µg/l	0.002	A-T-004w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<2500	<2500	<2500	<2500	-	<2500	<2500	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
n-Dioctylphthalate$_A$	<500	<500	<500	<500	-	<500	<500	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	-	-	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s
Perylene$_A$	<100	<100	<100	<100	-	<100	<100	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10	<10	<10	-	<10	<10	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5	<5	<5	-	<5	<5	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5	<5	<5	-	<5	<5	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	1	2	<1	5	-	<1	<1	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	<2	<1	4	-	<1	4	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2	<2	<2	-	<2	<2	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	98	150	6	230	-	16	74	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10	<10	<10	-	<10	<10	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3	<3	<3	-	<3	<3	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
Chlorobenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Ethylbenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
m & p Xylene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
o-Xylene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Styrene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromoform$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Isopropylbenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
Bromobenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
n-Propylbenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2	-	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_A$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
n-Butylbenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_A$	<2	<2	<2	<2	-	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_A$	<3	<3	<3	<3	-	<3	<3	µg/kg	3	A-T-006s
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1	-	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_A$	<3	<3	<3	<3	-	<3	<3	µg/kg	3	A-T-006s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
VOC (leachable)										
Dibromochloromethane (leachable)$_A$	-	-	-	<3	-	-	-	µg/l	3	A-T-006w
Dibromomethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Dichlorodifluoromethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Dichloromethane (leachable)$_A$	-	-	-	<5	-	-	-	µg/l	5	A-T-006w
Ethylbenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
n-butylbenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
o-Xylene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
m & p Xylene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
sec-Butylbenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
tert-Butylbenzene (leachable)$_A$	-	-	-	<2	-	-	-	µg/l	2	A-T-006w
Tetrachloroethene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Toluene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
trans 1,2-Dichloroethene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
trans 1,3-Dichloropropene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Trichloroethene (leachable)$_A$	-	-	-	12	-	-	-	µg/l	1	A-T-006w
Trichlorofluoromethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Vinyl Chloride (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1,1,2-Tetrachloroethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1,1-Trichloroethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1,2-Trichloroethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1-Dichloroethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1-Dichloroethene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,1-Dichloropropene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,2,3-Trichlorobenzene (leachable)$_A$	-	-	-	<3	-	-	-	µg/l	3	A-T-006w
1,2,3-Trichloropropane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,2,4-Trichlorobenzene (leachable)$_A$	-	-	-	<3	-	-	-	µg/l	3	A-T-006w
1,2-Dibromo-3-chloropropane (leachable)$_A$	-	-	-	<2	-	-	-	µg/l	2	A-T-006w
1,2-Dibromoethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,2-Dichlorobenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,2-Dichloroethane (leachable)$_A$	-	-	-	<2	-	-	-	µg/l	2	A-T-006w
1,2-Dichloropropane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
1,3,5-Trimethylbenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,3-Dichlorobenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,3-Dichloropropane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
1,4-Dichlorobenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
2,2-Dichloropropane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
2-Chlorotoluene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
4-Chlorotoluene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
4-Isopropyltoluene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Benzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Bromobenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Bromochloromethane (leachable)$_A$	-	-	-	<5	-	-	-	µg/l	5	A-T-006w
Bromodichloromethane (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-006w
Bromoform (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Bromomethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Carbon Tetrachloride (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Chlorobenzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Chloroethane (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Chloroform (leachable) $_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
Chloromethane (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-006w
cis 1,2-Dichloroethene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w
cis 1,3-Dichloropropene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	-	-	-	<2	-	-	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	-	-	<2	-	-	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	-	-	<20	-	-	-	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	-	-	<20	-	-	-	µg/l	10	Calc-As Recd
Aro >C5-C7 (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	-	-	<10	-	-	-	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	-	-	<20	-	-	-	µg/l	20	Calc-As Recd
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	-	-	<20	-	-	-	µg/l	20	Calc-As Recd
BTEX - Benzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	-	-	<1	-	-	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	-	-	<20	-	-	-	µg/l	20	A-T-055w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS306	WS306	WS306	WS304	WS304	WS304	WS304			
Depth to Top	0.50	1.50	2.50	0.50	1.00	1.50	2.50			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4ABE	5AB	5A	5AB	5A	1A	6AB			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	7	1	<1	9	-	<1	<1	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	2	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Total Aliphatics$_A$	9	1	<1	9	-	<1	<1	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	2	1	<1	3	-	<1	<1	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	5	2	<1	9	-	<1	<1	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	14	6	<1	17	-	<1	<1	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<1	<1	<1	<1	-	<1	<1	mg/kg	1	A-T-055s
Total Aromatics$_A$	21	9	<1	28	-	<1	<1	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	30	10	<1	37	-	<1	<1	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	-	<0.01	<0.01	mg/kg	0.01	A-T-022s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
% Stones >10mm$_A$	23.8	<0.1	<0.1	<0.1	<0.1	31.3	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	6.09	9.12	8.27	9.42	9.95	8.28	8.01	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	43	471	22	1240	467	282	1470	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0042	0.0687	0.0343	0.0370	0.0284	0.0475	0.0320	N/A	0.0003	A-T-032s
Antimony$_D$	<5	<5	<5	<5	<5	<5	10	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	<1	8	7	2	15	21	6	mg/kg	1	A-T-024s
Barium$_D$	34	195	357	266	191	133	620	mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	0.8	0.6	0.6	0.7	1.0	<0.5	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0	<1.0	19.5	3.8	3.2	9.4	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	0.6	1.2	0.6	0.7	0.8	4.8	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	8	77	74	72	46	63	1520	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	10	23	21	27	19	19	49	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	10	23	21	27	19	19	49	mg/kg	1	Calc
Lead$_D$$^{M\#}$	5	177	271	23	172	212	267	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	0.51	<0.17	1.08	1.32	0.95	0.95	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1	10	<1	4	2	3	6	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	10	52	17	23	18	21	48	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	11	32	26	27	29	27	21	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	16	89	189	76	93	95	874	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	-	*	-	-	-	-	-			A-T-001
pH (leachable)$_A$$^{\#}$	-	10.51	-	-	-	-	-	pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	-	316.20	-	-	-	-	-	mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	-	5.8	-	-	-	-	-	mg/l	2	A-T-032w
Antimony (leachable)$_A$	-	4	-	-	-	-	-	µg/l	1	A-T-025w
Arsenic (leachable)$_A$	-	16	-	-	-	-	-	µg/l	1	A-T-025w
Boron (leachable)$_A$	-	26	-	-	-	-	-	µg/l	10	A-T-025w
Barium (leachable)$_A$	-	20	-	-	-	-	-	µg/l	1	A-T-025w
Beryllium (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-025w
Cadmium (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-025w

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
Copper (leachable)$_A$	-	19	-	-	-	-	-	µg/l	4	A-T-025w
Chromium (leachable)$_A$	-	12	-	-	-	-	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	<0.05	-	-	-	-	-	mg/l	0.05	A-T-040w
Chromium (trivalent)	-	<0.05	-	-	-	-	-	mg/l	0.05	Calc
Lead (leachable)$_A$	-	1	-	-	-	-	-	µg/l	1	A-T-025w
Mercury (leachable)$_A$	-	<0.1	-	-	-	-	-	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	-	32	-	-	-	-	-	µg/l	1	A-T-025w
Nickel (leachable)$_A$	-	3	-	-	-	-	-	µg/l	2	A-T-025w
Selenium (leachable)$_A$	-	3	-	-	-	-	-	µg/l	1	A-T-025w
Vanadium (leachable)$_A$	-	46	-	-	-	-	-	µg/l	1	A-T-025w
Zinc (leachable)$_A$	-	<2	-	-	-	-	-	µg/l	2	A-T-025w
1,2,4-Trimethylbenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	-	NAD	Chrysotile	NAD	NAD	-	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	Loose Fibres & Cement	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	-	N/A	No	N/A	N/A	-	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	-	0.002	-	-	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	<0.01	0.02	1.30	0.01	0.06	0.05	0.18	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	<0.01	0.13	<0.01	<0.01	0.02	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	<0.02	0.02	2.30	0.04	0.11	0.10	0.26	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	<0.04	0.10	6.86	0.08	0.25	0.37	0.39	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	<0.04	0.08	8.13	0.07	0.25	0.44	0.45	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	<0.05	0.10	9.04	0.08	0.31	0.53	0.52	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	<0.05	<0.05	3.78	<0.05	0.14	0.34	0.21	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	<0.07	3.84	<0.07	0.16	0.21	0.21	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	<0.06	0.10	6.44	0.10	0.28	0.43	0.45	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04	0.68	<0.04	<0.04	0.06	<0.04	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	<0.08	0.23	16.1	0.22	0.67	0.70	0.94	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	<0.01	<0.01	0.83	0.01	0.02	0.03	0.11	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	<0.03	0.05	4.46	0.04	0.17	0.33	0.24	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	<0.03	0.27	<0.03	0.04	0.03	0.11	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	<0.03	0.18	7.35	0.14	0.43	0.34	0.80	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	<0.07	0.23	13.6	0.20	0.59	0.66	0.88	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	<0.08	1.11	85.1	0.99	3.48	4.64	5.75	mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	<0.02	-	-	-	-	-	µg/l	0.02	A-T-019w
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	-	mg/kg	0.2	A-T-050s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	-	<0.002	-	-	-	-	-	µg/l	0.002	A-T-004w

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	<100	176	<100	<100	<100	-	µg/kg	100	A-T-052s
Carbazole$_A$	<100	<100	388	<100	<100	<100	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<2500	<2500	<2500	<2500	<2500	<2500	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
n-Dioctylphthalate$_A$	<500	<500	<500	<500	<500	<500	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	-	-	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	<100	<100	<100	<100	<100	-	µg/kg	100	A-T-052s
Perylene$_A$	<100	<100	1220	<100	120	126	-	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10	<10	<10	<250	<10	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<1	<1	6	<25	<1	-	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5	<5	<5	<125	<5	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5	<5	<5	<125	<5	-	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	2	<2	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2	<2	<2	<50	<2	-	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	43	66	1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10	<10	<10	<250	<10	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3	<3	<3	<75	<3	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
Chlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	<2	<2	<50	<2	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	<2	<2	<50	<2	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	<3	<3	<75	<3	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	<1	<1	<25	<1	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	<3	<3	<75	<3	-	µg/kg	3	A-T-006s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
VOC (leachable)										
Dibromochloromethane (leachable)$_A$	-	<3	-	-	-	-	-	µg/l	3	A-T-006w
Dibromomethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Dichlorodifluoromethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Dichloromethane (leachable)$_A$	-	<5	-	-	-	-	-	µg/l	5	A-T-006w
Ethylbenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
n-butylbenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
o-Xylene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
m & p Xylene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
sec-Butylbenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
tert-Butylbenzene (leachable)$_A$	-	<2	-	-	-	-	-	µg/l	2	A-T-006w
Tetrachloroethene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Toluene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
trans 1,2-Dichloroethene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
trans 1,3-Dichloropropene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Trichloroethene (leachable)$_A$	-	4	-	-	-	-	-	µg/l	1	A-T-006w
Trichlorofluoromethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Vinyl Chloride (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,1,1,2-Tetrachloroethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,1,1-Trichloroethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,1,2-Trichloroethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,1-Dichloroethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,1-Dichloroethene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,1-Dichloropropene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,2,3-Trichlorobenzene (leachable)$_A$	-	<3	-	-	-	-	-	µg/l	3	A-T-006w
1,2,3-Trichloropropane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,2,4-Trichlorobenzene (leachable)$_A$	-	<3	-	-	-	-	-	µg/l	3	A-T-006w
1,2-Dibromo-3-chloropropane (leachable)$_A$	-	<2	-	-	-	-	-	µg/l	2	A-T-006w
1,2-Dibromoethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,2-Dichlorobenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,2-Dichloroethane (leachable)$_A$	-	<2	-	-	-	-	-	µg/l	2	A-T-006w
1,2-Dichloropropane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03602 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
1,3,5-Trimethylbenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,3-Dichlorobenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,3-Dichloropropane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
1,4-Dichlorobenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
2,2-Dichloropropane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
2-Chlorotoluene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
4-Chlorotoluene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
4-Isopropyltoluene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Benzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Bromobenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Bromochloromethane (leachable)$_A$	-	<5	-	-	-	-	-	µg/l	5	A-T-006w
Bromodichloromethane (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-006w
Bromoform (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Bromomethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Carbon Tetrachloride (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Chlorobenzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Chloroethane (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Chloroform (leachable) $_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
Chloromethane (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-006w
cis 1,2-Dichloroethene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w
cis 1,3-Dichloropropene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	-	<2	-	-	-	-	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	<2	-	-	-	-	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	<20	-	-	-	-	-	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	<20	-	-	-	-	-	µg/l	10	Calc-As Recd
Aro >C5-C7 (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	<10	-	-	-	-	-	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	<20	-	-	-	-	-	µg/l	20	Calc-As Recd
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	<20	-	-	-	-	-	µg/l	20	Calc-As Recd
BTEX - Benzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	<1	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	<20	-	-	-	-	-	µg/l	20	A-T-055w

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS304	WS307	WS310	WS311	WS312	WS312	MP301			
Depth to Top	3.50	0.40	0.40	0.40	0.60	1.00	1.00			
Depth To Bottom										
Date Sampled	04-Apr-23	04-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23	05-Apr-23			
Sample Type	Soil - ES	Solid	Soil - ES	Solid	Solid	Soil - ES	Soil - ES			
Sample Matrix Code	5AB	7	4ABDE	7	7	4AB	4AE			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<10	<1	1	<1	-	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<10	<1	1	<1	-	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<10	<1	2	<1	-	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	4	11	2	6	5	-	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	<1	39	1090	65	32	20	-	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	<1	7	493	6	11	6	-	mg/kg	1	A-T-055s
Total Aliphatics$_A$	<1	49	1590	73	54	31	-	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<1	<3	<10	<1	2	2	-	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<1	<1	<10	<1	2	2	-	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	<1	2	22	2	12	4	-	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	<1	8	101	7	56	13	-	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	<1	20	658	17	108	49	-	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<1	<1	132	<1	1	<1	-	mg/kg	1	A-T-055s
Total Aromatics$_A$	<1	31	913	26	182	70	-	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	<1	81	2510	99	236	101	-	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	-	mg/kg	0.01	A-T-022s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/42	23/03602/43						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	MP302	MP304								
Depth to Top	1.00	1.00								
Depth To Bottom										
Date Sampled	05-Apr-23	05-Apr-23								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4ABDE	4ADE								
% Stones >10mm$_A$	15.7	6.0						% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.58	7.98						pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	1580	2130						mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	2						mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	1.3	<0.2						mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0343	0.0748						N/A	0.0003	A-T-032s
Antimony$_D$	27	54						mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	5	8						mg/kg	1	A-T-024s
Barium$_D$	518	603						mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	<0.5						mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	13.2	111						mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	4.1	9.9						mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	3460	2870						mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	94	259						mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1						mg/kg	1	A-T-040s
Chromium (trivalent)	94	259						mg/kg	1	Calc
Lead$_D$$^{M\#}$	405	536						mg/kg	1	A-T-024s
Mercury$_D$	2.01	1.07						mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	9	14						mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	80	124						mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	30	23						mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	1220	2940						mg/kg	5	A-T-024s

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/42	23/03602/43						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	MP302	MP304								
Depth to Top	1.00	1.00								
Depth To Bottom										
Date Sampled	05-Apr-23	05-Apr-23								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4ABDE	4ADE								
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD								A-T-045
Asbestos Matrix (visual)$_{D}$	-	-								A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-								A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A								A-T-045

Envirolab Job Number: 23/03602

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03602/42	23/03602/43						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	MP302	MP304								
Depth to Top	1.00	1.00								
Depth To Bottom										
Date Sampled	05-Apr-23	05-Apr-23								
Sample Type	Soil - ES	Soil - ES								
Sample Matrix Code	4ABDE	4ADE								
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.03	0.06						mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	0.02						mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.05	0.08						mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.19	0.31						mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.28	0.36						mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.33	0.56						mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.18	0.19						mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.13	0.19						mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.23	0.38						mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	<0.04						mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.44	0.87						mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.02	0.07						mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.18	0.18						mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	0.17						mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.23	0.38						mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.43	0.88						mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	2.72	4.70						mg/kg	0.01	A-T-019s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:

All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:

Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:

Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:

Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:

1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.

Secondary Matrix Codes:

A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:

IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-04

Clients Project No: 4328

Project No: 23/03602

Date Received: 17/04/2023 (am)

Cool Box Temperatures (°C): 10.7-11.8

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12
Client Sample No												
Client Sample ID/Depth	WS303 0.40m	WS303 1.20m	WS303 1.80m	WS303 3.10m	WS305 0.50m	WS305 1.00m	WS308 0.60m	WS308 1.00m	WS308 2.00m	WS309 0.70m	WS309 1.90m	WS309 2.50m
Date Sampled	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23
Deviation Code												
B1 (no VPH)					✓							
D (no glass)					✓							
F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Lab Sample ID	23/03602/14	23/03602/17	23/03602/18	23/03602/20	23/03602/21	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32
Client Sample No												
Client Sample ID/Depth	WS302 1.50m	WS301 0.50m	WS301 1.50m	WS301 3.50m	WS301 4.50m	WS306 0.50m	WS306 1.50m	WS306 2.50m	WS304 0.50m	WS304 1.00m	WS304 1.50m	WS304 2.50m
Date Sampled	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23
Deviation Code												
B1 (no VPH)												
D (no glass)												
F	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	23/03602/42	23/03602/43
Client Sample No									
Client Sample ID/Depth	WS304 3.50m	WS307 0.40m	WS310 0.40m	WS311 0.40m	WS312 0.60m	WS312 1.00m	MP301 1.00m	MP302 1.00m	MP304 1.00m
Date Sampled	04/04/23	04/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23
Deviation Code									
B1 (no VPH)									
D (no glass)									
F	✓	✓	✓	✓	✓	✓	✓	✓	✓

Key

B1 (no VPH)	*Separate container not supplied for VPH/BTEX analysis*
D (no glass)	*Glass container not provided for extractable organics analysis*
F	*Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12
Client Sample No												
Client Sample ID/Depth	WS303 0.40m	WS303 1.20m	WS303 1.80m	WS303 3.10m	WS305 0.50m	WS305 1.00m	WS308 0.60m	WS308 1.00m	WS308 2.00m	WS309 0.70m	WS309 1.90m	WS309 2.50m
Date Sampled	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23
Cyanide (total)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PAH-16MS	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VPHCWG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VOC	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
SVOC excluding PAH-16	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
PAH (total 17)						✓						
BTEX (total)						✓						

Lab Sample ID	23/03602/14	23/03602/17	23/03602/18	23/03602/20	23/03602/21	23/03602/25	23/03602/26	23/03602/27	23/03602/28	23/03602/29	23/03602/30	23/03602/32
Client Sample No												
Client Sample ID/Depth	WS302 1.50m	WS301 0.50m	WS301 1.50m	WS301 3.50m	WS301 4.50m	WS306 0.50m	WS306 1.50m	WS306 2.50m	WS304 0.50m	WS304 1.00m	WS304 1.50m	WS304 2.50m
Date Sampled	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23
Cyanide (total)					✓	✓	✓	✓	✓	✓	✓	✓
PAH-16MS		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
VPHCWG					✓	✓	✓	✓	✓		✓	✓
VOC	✓				✓	✓	✓	✓	✓		✓	✓
SVOC excluding PAH-16		✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
PAH (total 17)										✓		
BTEX (total)										✓		

Lab Sample ID	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	23/03602/42	23/03602/43
Client Sample No									
Client Sample ID/Depth	WS304 3.50m	WS307 0.40m	WS310 0.40m	WS311 0.40m	WS312 0.60m	WS312 1.00m	MP301 1.00m	MP302 1.00m	MP304 1.00m
Date Sampled	04/04/23	04/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23
Cyanide (total)	✓	✓	✓	✓	✓	✓	✓	✓	✓
PAH-16MS	✓	✓	✓	✓	✓	✓	✓	✓	✓
VPHCWG	✓	✓	✓	✓	✓	✓			
VOC	✓	✓	✓	✓	✓	✓			
SVOC excluding PAH-16	✓	✓	✓	✓	✓	✓			
PAH (total 17)							✓	✓	✓
BTEX (total)							✓	✓	✓

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12
Client Sample No												
Client Sample ID/Depth	WS303 0.40m	WS303 1.20m	WS303 1.80m	WS303 3.10m	WS305 0.50m	WS305 1.00m	WS308 0.60m	WS308 1.00m	WS308 2.00m	WS309 0.70m	WS309 1.90m	WS309 2.50m
Date Sampled	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23
A-T-004s						24/04/2023						
A-T-004w												
A-T-006s	21/04/2023	25/04/2023	21/04/2023	25/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
A-T-006w												
A-T-007s						26/04/2023						
A-T-019s	24/04/2023	24/04/2023	24/04/2023	26/04/2023	26/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
A-T-019w												
A-T-022s	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	27/04/2023	21/04/2023	24/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
A-T-022w												
A-T-024s	26/04/2023	04/05/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-025w						02/05/2023						
A-T-026s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-026w						02/05/2023						
A-T-026w (F)						02/05/2023						
A-T-027s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-030s						19/04/2023						
A-T-031s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-031w						02/05/2023						
A-T-032s	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
A-T-032w						02/05/2023						
A-T-037w						02/05/2023						
A-T-040s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-040w												
A-T-042sTCN	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
A-T-044	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-045	19/04/2023	19/04/2023			19/04/2023	19/04/2023	19/04/2023	19/04/2023		19/04/2023		
A-T-050s	24/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
A-T-050w						02/05/2023						
A-T-052s	20/04/2023	21/04/2023	21/04/2023	26/04/2023	26/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
A-T-054					20/04/2023	20/04/2023	20/04/2023	20/04/2023				
A-T-055s	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
A-T-055w												

Lab Sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/5	23/03602/6	23/03602/7	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12
Client Sample No												
Client Sample ID/Depth	WS303 0.40m	WS303 1.20m	WS303 1.80m	WS303 3.10m	WS305 0.50m	WS305 1.00m	WS308 0.60m	WS308 1.00m	WS308 2.00m	WS309 0.70m	WS309 1.90m	WS309 2.50m
Date Sampled	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23	03/04/23
A-T-ANCs						28/04/2023						
Calc	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
Calc-As Recd	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	24/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
Calc-no stones						02/05/2023						
Probe (w)						02/05/2023						

Lab Sample ID	23/03602/13	23/03602/14	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	23/03602/25	23/03602/26	23/03602/27
Client Sample No												
Client Sample ID/Depth	WS302 0.50m	WS302 1.50m	WS302 2.50m	WS302 3.50m	WS301 0.50m	WS301 1.50m	WS301 2.50m	WS301 3.50m	WS301 4.50m	WS306 0.50m	WS306 1.50m	WS306 2.50m
Date Sampled	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23
A-T-004s												
A-T-004w			25/04/2023			25/04/2023						
A-T-006s	21/04/2023	25/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	19/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-006w			26/04/2023			26/04/2023						
A-T-007s												
A-T-019s	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	26/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
A-T-019w			25/04/2023			25/04/2023						
A-T-022s	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-022w			26/04/2023			26/04/2023						
A-T-024s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	27/04/2023	27/04/2023	02/05/2023	27/04/2023
A-T-025w			25/04/2023			25/04/2023						
A-T-026s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-026w			25/04/2023			25/04/2023						
A-T-026w (F)												
A-T-027s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-030s												
A-T-031s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-031w			25/04/2023			25/04/2023						
A-T-032s	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-032w			26/04/2023			26/04/2023						
A-T-037w												
A-T-040s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-040w			25/04/2023			25/04/2023						
A-T-042sTCN	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
A-T-044	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-045	19/04/2023	19/04/2023			19/04/2023	19/04/2023				20/04/2023	20/04/2023	
A-T-050s	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-050w												
A-T-052s	20/04/2023	20/04/2023	20/04/2023	20/04/2023	26/04/2023	26/04/2023	20/04/2023	26/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
A-T-054	20/04/2023				20/04/2023					27/04/2023		
A-T-055s	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
A-T-055w			25/04/2023			25/04/2023						
A-T-ANCs												
Calc	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	27/04/2023	27/04/2023	02/05/2023	27/04/2023

Lab Sample ID	23/03602/13	23/03602/14	23/03602/15	23/03602/16	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	23/03602/25	23/03602/26	23/03602/27
Client Sample No												
Client Sample ID/Depth	WS302 0.50m	WS302 1.50m	WS302 2.50m	WS302 3.50m	WS301 0.50m	WS301 1.50m	WS301 2.50m	WS301 3.50m	WS301 4.50m	WS306 0.50m	WS306 1.50m	WS306 2.50m
Date Sampled	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23
Calc-As Recd	21/04/2023	21/04/2023	26/04/2023	21/04/2023	21/04/2023	26/04/2023	21/04/2023	21/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
Calc-no stones												
Probe (w)												

Lab Sample ID	23/03602/28	23/03602/29	23/03602/30	23/03602/32	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	23/03602/42
Client Sample No												
Client Sample ID/Depth	WS304 0.50m	WS304 1.00m	WS304 1.50m	WS304 2.50m	WS304 3.50m	WS307 0.40m	WS310 0.40m	WS311 0.40m	WS312 0.60m	WS312 1.00m	MP301 1.00m	MP302 1.00m
Date Sampled	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23
A-T-004s		24/04/2023									24/04/2023	24/04/2023
A-T-004w	02/05/2023					02/05/2023						
A-T-006s	25/04/2023		25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	26/04/2023	25/04/2023		
A-T-006w	02/05/2023					02/05/2023						
A-T-007s		24/04/2023									24/04/2023	24/04/2023
A-T-019s	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023
A-T-019w	02/05/2023					02/05/2023						
A-T-022s	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-022w	02/05/2023					02/05/2023						
A-T-024s	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	02/05/2023
A-T-025w	28/04/2023	02/05/2023				28/04/2023					02/05/2023	02/05/2023
A-T-026s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-026w	02/05/2023	02/05/2023				02/05/2023					02/05/2023	02/05/2023
A-T-026w (F)		02/05/2023									02/05/2023	02/05/2023
A-T-027s	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	28/04/2023	27/04/2023	27/04/2023	27/04/2023	28/04/2023
A-T-030s		26/04/2023									26/04/2023	26/04/2023
A-T-031s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-031w	28/04/2023	02/05/2023				28/04/2023					02/05/2023	02/05/2023
A-T-032s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-032w	28/04/2023	02/05/2023				28/04/2023					02/05/2023	02/05/2023
A-T-037w		02/05/2023									02/05/2023	02/05/2023
A-T-040s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-040w	02/05/2023					02/05/2023						
A-T-042sTCN	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
A-T-044	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-045	20/04/2023	20/04/2023	20/04/2023			20/04/2023	20/04/2023	20/04/2023	20/04/2023		20/04/2023	20/04/2023
A-T-050s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-050w		02/05/2023									02/05/2023	02/05/2023
A-T-052s	24/04/2023		24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023		
A-T-054							27/04/2023					
A-T-055s	24/04/2023		24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023	24/04/2023		
A-T-055w	02/05/2023					02/05/2023						
A-T-ANCs		26/04/2023									28/04/2023	28/04/2023
Calc	02/05/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	02/05/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023

Lab Sample ID	23/03602/28	23/03602/29	23/03602/30	23/03602/32	23/03602/33	23/03602/34	23/03602/35	23/03602/36	23/03602/37	23/03602/38	23/03602/41	23/03602/42
Client Sample No												
Client Sample ID/Depth	WS304 0.50m	WS304 1.00m	WS304 1.50m	WS304 2.50m	WS304 3.50m	WS307 0.40m	WS310 0.40m	WS311 0.40m	WS312 0.60m	WS312 1.00m	MP301 1.00m	MP302 1.00m
Date Sampled	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	04/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23	05/04/23
Calc-As Recd	02/05/2023		27/04/2023	27/04/2023	27/04/2023	02/05/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023		
Calc-no stones		02/05/2023									02/05/2023	02/05/2023
Probe (w)		02/05/2023									02/05/2023	02/05/2023

Lab Sample ID	23/03602/43
Client Sample No	
Client Sample ID/Depth	MP304 1.00m
Date Sampled	05/04/23
A-T-004s	24/04/2023
A-T-004w	
A-T-006s	
A-T-006w	
A-T-007s	24/04/2023
A-T-019s	24/04/2023
A-T-019w	
A-T-022s	27/04/2023
A-T-022w	
A-T-024s	02/05/2023
A-T-025w	02/05/2023
A-T-026s	26/04/2023
A-T-026w	02/05/2023
A-T-026w (F)	02/05/2023
A-T-027s	28/04/2023
A-T-030s	26/04/2023
A-T-031s	26/04/2023
A-T-031w	02/05/2023
A-T-032s	26/04/2023
A-T-032w	02/05/2023
A-T-037w	02/05/2023
A-T-040s	26/04/2023
A-T-040w	
A-T-042sTCN	21/04/2023
A-T-044	25/04/2023
A-T-045	20/04/2023
A-T-050s	25/04/2023
A-T-050w	02/05/2023
A-T-052s	
A-T-054	
A-T-055s	
A-T-055w	
A-T-ANCs	28/04/2023
Calc	27/04/2023

Lab Sample ID	23/03602/43
Client Sample No	
Client Sample ID/Depth	MP304 1.00m
Date Sampled	05/04/23
Calc-As Recd	
Calc-no stones	02/05/2023
Probe (w)	02/05/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/03693
Issue Number: 1 **Date:** 05 May, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-04
Project Ref: 4328
Order No: 4328
Date Samples Received: 14/04/23
Date Instructions Received: 19/04/23
Date Analysis Completed: 05/05/23

Approved by:



Richard Wong
Client Manager

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
% Stones >10mm$_A$	<0.1	<0.1	11.2	15.5	<0.1	6.5	3.0	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.64	8.68	8.28	8.68	7.51	8.58	8.82	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	607	902	1620	2330	180	492	1740	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	0.7	1.7	<2.0	1.5	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.3124	0.0210	0.0426	0.0280	0.0028	0.0233	0.0769	N/A	0.0003	A-T-032s
Antimony$_D$	97	<5	10	13	<5	8	<5	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	3	3	6	14	<1	2	17	mg/kg	1	A-T-024s
Barium$_D$	1510	220	371	539	63	514	275	mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.9	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	31.3	4.7	13.3	24.1	<1.0	13.8	13.7	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	19.1	1.4	2.3	2.1	<0.5	2.1	1.1	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	10700	519	888	1030	26	726	132	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	159	22	38	201	19	35	46	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	159	22	38	201	19	35	46	mg/kg	1	Calc
Lead$_D$$^{M\#}$	1140	107	261	439	17	205	425	mg/kg	1	A-T-024s
Mercury$_D$	0.71	0.59	1.02	1.44	<0.17	0.59	1.05	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	16	2	4	6	<1	3	3	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	139	23	42	126	14	36	24	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	7	<1	2	<1	<1	2	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	11	25	23	25	20	21	30	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	4260	288	628	1060	42	636	292	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	IS	-	*	-	-	-	-			A-T-001
pH (leachable)$_A$$^{\#}$	IS	-	7.85	-	-	-	-	pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	IS	-	647.83	-	-	-	-	mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	IS	-	20.4	-	-	-	-	mg/l	2	A-T-032w
Antimony (leachable)$_A$	IS	-	21	-	-	-	-	µg/l	1	A-T-025w
Arsenic (leachable)$_A$	IS	-	2	-	-	-	-	µg/l	1	A-T-025w
Boron (leachable)$_A$	IS	-	2040	-	-	-	-	µg/l	10	A-T-025w
Barium (leachable)$_A$	IS	-	63	-	-	-	-	µg/l	1	A-T-025w
Beryllium (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-025w
Cadmium (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-025w

Envirolab Job Number: 23/03693 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
Copper (leachable)$_A$	IS	-	21	-	-	-	-	µg/l	4	A-T-025w
Chromium (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	IS	-	<0.05	-	-	-	-	mg/l	0.05	A-T-040w
Chromium (trivalent)	IS	-	<0.05	-	-	-	-	mg/l	0.05	Calc
Lead (leachable)$_A$	IS	-	2	-	-	-	-	µg/l	1	A-T-025w
Mercury (leachable)$_A$	IS	-	<0.1	-	-	-	-	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	IS	-	84	-	-	-	-	µg/l	1	A-T-025w
Nickel (leachable)$_A$	IS	-	24	-	-	-	-	µg/l	2	A-T-025w
Selenium (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-025w
Vanadium (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-025w
Zinc (leachable)$_A$	IS	-	106	-	-	-	-	µg/l	2	A-T-025w
Carbon Disulphide (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-006w
1,2,4-Trimethylbenzene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-006w
Styrene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	Amosite	NAD	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	Loose Fibres	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	N/A	N/A	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	<0.001	-	-	-	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.05	0.29	0.50	0.25	<0.01	0.05	0.17	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.03	0.02	0.04	0.03	<0.01	<0.01	<0.01	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.15	0.37	0.61	0.31	<0.02	0.07	0.26	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.59	0.92	1.60	0.69	<0.04	0.19	0.45	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.56	0.93	1.65	0.94	<0.04	0.19	0.40	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.70	0.97	1.74	0.92	<0.05	0.22	0.45	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.32	0.53	0.87	0.51	<0.05	0.12	0.24	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.29	0.47	0.70	0.40	<0.07	0.13	0.19	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.64	0.97	1.60	0.74	<0.06	0.21	0.48	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.05	0.10	0.17	0.09	<0.04	<0.04	0.05	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	1.26	2.08	3.63	1.66	<0.08	0.43	1.16	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.07	0.19	0.32	0.22	<0.01	0.05	0.14	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.36	0.57	0.92	0.53	<0.03	0.12	0.25	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.08	0.24	0.28	0.20	<0.03	0.04	0.09	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.55	1.42	2.02	1.20	<0.03	0.27	1.12	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	1.23	1.94	3.32	1.56	<0.07	0.43	1.03	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	6.93	12	20	10.2	<0.08	2.52	6.48	mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	IS	-	0.03	-	-	-	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	IS	-	0.03	-	-	-	-	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	IS	-	<0.02	-	-	-	-	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	IS	-	0.03	-	-	-	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	-	0.09	-	-	-	-	µg/l	0.02	A-T-019w
Phenols (speciated HPLC)										
Phenol$_A$	<0.2	-	0.4	-	-	-	-	mg/kg	0.2	A-T-050s
Cresols$_A$	<0.2	-	1.2	-	-	-	-	mg/kg	0.2	A-T-050s
Xylenols$_A$	<0.2	-	<0.2	-	-	-	-	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<0.2	-	<0.2	-	-	-	-	mg/kg	0.2	A-T-050s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	IS	-	0.003	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	IS	-	<0.002	-	-	-	-	µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	-	-	0.003	-	-	-	-	µg/l	0.002	A-T-004w

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<500	-	289	-	-	-	-	µg/kg	100	A-T-052s
Carbazole$_A$	<500	-	299	-	-	-	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<500	-	196	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	166000	-	53200	-	-	-	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<500	-	194	-	-	-	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<500	-	202	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Phenol$_A$	818	-	1520	-	-	-	-	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03693 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
n-Dioctylphthalate$_A$	30700	-	2050	-	-	-	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	4930	-	668	-	-	-	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Isophorone$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	-	-	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<500	-	<100	-	-	-	-	µg/kg	100	A-T-052s
Perylene$_A$	<500	-	483	-	-	-	-	µg/kg	100	A-T-052s

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
VOC										
Dichlorodifluoromethane$_A$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Chloromethane$_A$	<10	-	<10	-	-	-	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromomethane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Chloroethane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Carbon Disulphide$_A^\#$	4	-	1	-	-	-	-	µg/kg	1	A-T-006s
Dichloromethane$_A$	<5	-	<5	-	-	-	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromochloromethane$_A^\#$	<5	-	<5	-	-	-	-	µg/kg	5	A-T-006s
Chloroform$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_A^\#$	<2	-	<2	-	-	-	-	µg/kg	2	A-T-006s
Benzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Trichloroethene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Dibromomethane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromodichloromethane$_A^\#$	<10	-	<10	-	-	-	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Toluene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Tetrachloroethene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Dibromochloromethane$_A^\#$	<3	-	<3	-	-	-	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
Chlorobenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_A$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Ethylbenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
m & p Xylene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
o-Xylene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Styrene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromoform$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Isopropylbenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_A$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
Bromobenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
n-Propylbenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_A^\#$	<2	-	<2	-	-	-	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_A$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
n-Butylbenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_A$	<2	-	<2	-	-	-	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_A$	<3	-	<3	-	-	-	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_A^\#$	<1	-	<1	-	-	-	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_A$	<3	-	<3	-	-	-	-	µg/kg	3	A-T-006s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	IS	-	<10	-	-	-	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	IS	-	<10	-	-	-	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	IS	-	<10	-	-	-	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	IS	-	<10	-	-	-	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	IS	-	<20	-	-	-	-	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	IS	-	<10	-	-	-	-	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	IS	-	<20	-	-	-	-	µg/l	10	Calc-As Recd
Aro >C5-C7 (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	IS	-	<10	-	-	-	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	IS	-	<10	-	-	-	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	IS	-	36	-	-	-	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	IS	-	33	-	-	-	-	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	IS	-	<10	-	-	-	-	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	IS	-	71	-	-	-	-	µg/l	20	Calc-As Recd
TPH (Ali & Aro >C5-C44) (leachable)$_A$	IS	-	71	-	-	-	-	µg/l	20	Calc-As Recd
BTEX - Benzene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
MTBE (leachable)$_A$	IS	-	<1	-	-	-	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	IS	-	<20	-	-	-	-	µg/l	20	A-T-055w

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP310	TP307	TP307	TP305	TP305	TP308	TP308			
Depth to Top	0.50	0.30	0.60	0.50	1.50	0.10	0.80			
Depth To Bottom										
Date Sampled	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23	12-Apr-23			
Sample Type	Solid	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	7	4AB	4ABE	4ABE	5A	4AE	4ABE			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	3	-	2	-	-	-	-	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	3	-	5	-	-	-	-	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	10	-	12	-	-	-	-	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	25	-	35	-	-	-	-	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	495	-	582	-	-	-	-	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	151	-	133	-	-	-	-	mg/kg	1	A-T-055s
Total Aliphatics$_A$	686	-	769	-	-	-	-	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	7	-	6	-	-	-	-	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	7	-	8	-	-	-	-	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	34	-	31	-	-	-	-	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	86	-	57	-	-	-	-	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	106	-	126	-	-	-	-	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	3	-	2	-	-	-	-	mg/kg	1	A-T-055s
Total Aromatics$_A$	243	-	230	-	-	-	-	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	929	-	999	-	-	-	-	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.05	-	<0.01	-	-	-	-	mg/kg	0.01	A-T-022s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
% Stones >10mm$_A$	<0.1	<0.1	0.8	8.3	26.2	23.1	7.7	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.58	8.54	8.19	8.21	8.14	7.81	7.99	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	595	712	153	76	14	1180	166	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	1	<1	<1	5	2	2	5	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0808	0.0570	0.0063	0.0884	0.0748	0.0663	0.1232	N/A	0.0003	A-T-032s
Antimony$_D$	17	16	<5	110	15	55	42	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	19	15	2	31	28	21	28	mg/kg	1	A-T-024s
Barium$_D$	701	616	41	787	351	259	250	mg/kg	1	A-T-024s
Beryllium$_D$	0.8	1.0	<0.5	1.5	1.0	0.8	0.9	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	22.5	21.2	1.3	<1.0	<1.0	<1.0	<1.0	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	2.5	2.5	<0.5	1.6	1.3	1.5	1.9	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	293	371	38	722	266	460	499	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	48	41	14	31	20	18	21	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	48	41	14	31	20	18	21	mg/kg	1	Calc
Lead$_D$$^{M\#}$	762	1040	61	1490	621	1820	1410	mg/kg	1	A-T-024s
Mercury$_D$	1.92	0.57	<0.17	2.40	1.51	0.70	0.54	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	4	3	<1	5	3	3	4	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	30	30	8	36	22	29	36	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	31	36	10	51	35	39	44	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	565	595	75	402	320	505	599	mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	*	-	-	-	-	-	-			A-T-001
pH (leachable)$_A$$^{\#}$	8.32	-	-	-	-	-	-	pH	0.01	A-T-031w
Sulphate (leachable)$_A$$^{\#}$	190.57	-	-	-	-	-	-	mg/l	1	A-T-026w
DOC (leachable)$_A$$^{\#}$	72.5	-	-	-	-	-	-	mg/l	2	A-T-032w
Antimony (leachable)$_A$	100	-	-	-	-	-	-	µg/l	1	A-T-025w
Arsenic (leachable)$_A$	37	-	-	-	-	-	-	µg/l	1	A-T-025w
Boron (leachable)$_A$	4910	-	-	-	-	-	-	µg/l	10	A-T-025w
Barium (leachable)$_A$	242	-	-	-	-	-	-	µg/l	1	A-T-025w
Beryllium (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-025w
Cadmium (leachable)$_A$	2	-	-	-	-	-	-	µg/l	1	A-T-025w

Envirolab Job Number: 23/03693 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
Copper (leachable)$_A$	618	-	-	-	-	-	-	µg/l	4	A-T-025w
Chromium (leachable)$_A$	16	-	-	-	-	-	-	µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	<0.05	-	-	-	-	-	-	mg/l	0.05	A-T-040w
Chromium (trivalent)	<0.05	-	-	-	-	-	-	mg/l	0.05	Calc
Lead (leachable)$_A$	2970	-	-	-	-	-	-	µg/l	1	A-T-025w
Mercury (leachable)$_A$	<0.1	-	-	-	-	-	-	µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	99	-	-	-	-	-	-	µg/l	1	A-T-025w
Nickel (leachable)$_A$	61	-	-	-	-	-	-	µg/l	2	A-T-025w
Selenium (leachable)$_A$	2	-	-	-	-	-	-	µg/l	1	A-T-025w
Vanadium (leachable)$_A$	32	-	-	-	-	-	-	µg/l	1	A-T-025w
Zinc (leachable)$_A$	1050	-	-	-	-	-	-	µg/l	2	A-T-025w
Carbon Disulphide (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
1,2,4-Trimethylbenzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w
Styrene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-006w

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	Chrysotile	Chrysotile	-	NAD	NAD	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	Loose Fibres	Loose Fibres	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	-	N/A	N/A	N/A	N/A			A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	0.013	0.003	-	-	-	-	-	% w/w	0.001	A-T-054

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.28	0.32	0.02	0.13	0.22	0.09	1.34	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.06	0.30	<0.01	0.07	0.05	0.06	0.61	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.32	0.79	0.07	0.47	0.39	0.26	3.57	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.92	3.27	0.20	1.44	1.10	1.04	11.7	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.45	4.01	0.20	1.67	1.22	1.16	14.6	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	1.47	4.08	0.21	1.54	1.24	1.09	13.9	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	1.10	2.39	0.14	0.90	0.68	0.71	7.51	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.55	1.66	0.12	0.66	0.52	0.44	5.70	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.12	3.32	0.20	1.48	1.16	0.99	11.8	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	0.19	0.43	<0.04	0.21	0.13	0.18	1.69	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	2.04	6.07	0.42	2.40	2.27	1.36	19.4	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.26	0.27	0.01	0.15	0.19	0.07	1.36	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	1.09	2.61	0.15	0.98	0.73	0.78	8.20	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.09	0.07	<0.03	0.10	0.15	0.06	1.64	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	1.00	3.00	0.28	1.72	1.79	0.89	13	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	2.27	5.93	0.38	2.59	2.19	1.47	21.3	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	14.2	38.5	2.40	16.5	14	10.7	137	mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	0.47	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	<0.02	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	0.28	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	0.38	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	0.31	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	0.42	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	0.18	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	0.13	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	0.56	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	0.06	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	1.96	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	0.14	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	0.18	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	<0.02	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	0.09	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	3.04	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	8.20	-	-	-	-	-	-	µg/l	0.02	A-T-019w
Phenols (speciated HPLC)										
Phenol$_A$	<1.0	-	-	-	-	-	-	mg/kg	0.2	A-T-050s
Cresols$_A$	<1.0	-	-	-	-	-	-	mg/kg	0.2	A-T-050s
Xylenols$_A$	<1.0	-	-	-	-	-	-	mg/kg	0.2	A-T-050s
Resorcinol$_A$	<1.0	-	-	-	-	-	-	mg/kg	0.2	A-T-050s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	<0.002	-	-	-	-	-	-	µg/l	0.002	A-T-004w

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Carbazole$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<1000	-	-	-	-	-	-	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Phenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s

Envirolab Job Number: 23/03693 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
n-Dioctylphthalate$_A$	<500	-	-	-	-	-	-	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Isophorone$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorocyclopentadiene$_A$	-	-	-	-	-	-	-	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	-	-	-	-	-	-	µg/kg	100	A-T-052s
Perylene$_A$	331	-	-	-	-	-	-	µg/kg	100	A-T-052s

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
VOC										
Dichlorodifluoromethane$_{A}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	-	-	-	-	-	-	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	-	-	-	-	-	-	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	-	-	-	-	-	-	µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	-	-	-	-	-	-	µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	-	-	-	-	-	-	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	-	-	-	-	-	-	µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s

Envirolab Job Number: 23/03693 **Client Project Name: Plots NT02-04**

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
Chlorobenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	-	-	-	-	-	-	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	-	-	-	-	-	-	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	-	-	-	-	-	-	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	-	-	-	-	-	-	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	-	-	-	-	-	-	µg/kg	3	A-T-006s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	18	-	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	23	-	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	121	-	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	300	-	-	-	-	-	-	µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	6466	-	-	-	-	-	-	µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	1037	-	-	-	-	-	-	µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	9360	-	-	-	-	-	-	µg/l	10	Calc-As Recd
Aro >C5-C7 (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	43	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	30	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	169	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	360	-	-	-	-	-	-	µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	150	-	-	-	-	-	-	µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	1174	-	-	-	-	-	-	µg/l	20	Calc-As Recd
TPH (Ali & Aro >C5-C44) (leachable)$_A$	10530	-	-	-	-	-	-	µg/l	20	Calc-As Recd
BTEX - Benzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
MTBE (leachable)$_A$	<1	-	-	-	-	-	-	µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	247	-	-	-	-	-	-	µg/l	20	A-T-055w

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12	23/03693/13	23/03693/14	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS309	WS309	WS309	TP306	TP304	TP304	TP304			
Depth to Top	0.40	1.00	3.00	0.50	0.20	0.50	1.50			
Depth To Bottom			3.50							
Date Sampled	11-Apr-23	11-Apr-23	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23			
Sample Type	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES	Soil - ES			
Sample Matrix Code	4A	4ABE	1A	4A	4ABE	4AE	4ABE			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<10	-	-	-	-	-	-	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<10	-	-	-	-	-	-	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	51	-	-	-	-	-	-	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	126	-	-	-	-	-	-	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	1340	-	-	-	-	-	-	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	598	-	-	-	-	-	-	mg/kg	1	A-T-055s
Total Aliphatics$_A$	2120	-	-	-	-	-	-	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<10	-	-	-	-	-	-	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	<10	-	-	-	-	-	-	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	59	-	-	-	-	-	-	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	161	-	-	-	-	-	-	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	196	-	-	-	-	-	-	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	41	-	-	-	-	-	-	mg/kg	1	A-T-055s
Total Aromatics$_A$	457	-	-	-	-	-	-	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	2570	-	-	-	-	-	-	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	-	-	-	-	-	-	mg/kg	0.01	A-T-022s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/15	23/03693/16	23/03693/17					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP301	TP302	TP302							
Depth to Top	0.50	0.40	1.10							
Depth To Bottom										
Date Sampled	13-Apr-23	13-Apr-23	13-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4AB	4AB	5AB							
% Stones >10mm$_A$	1.9	<0.1	1.1					% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.02	8.04	7.83					pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	86	812	208					mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0445	0.0144	0.0341					N/A	0.0003	A-T-032s
Antimony$_D$	<5	6	<5					mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	21	13	13					mg/kg	1	A-T-024s
Barium$_D$	121	371	104					mg/kg	1	A-T-024s
Beryllium$_D$	0.8	<0.5	0.7					mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	1.4	4.3	<1.0					mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	1.4	2.0	0.6					mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	70	529	57					mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	31	35	17					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1					mg/kg	1	A-T-040s
Chromium (trivalent)	31	35	17					mg/kg	1	Calc
Lead$_D$$^{M\#}$	700	221	104					mg/kg	1	A-T-024s
Mercury$_D$	0.54	<0.17	<0.17					mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	3	4	2					mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	24	28	19					mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	27	27	24					mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	177	481	58					mg/kg	5	A-T-024s

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/15	23/03693/16	23/03693/17					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP301	TP302	TP302							
Depth to Top	0.50	0.40	1.10							
Depth To Bottom										
Date Sampled	13-Apr-23	13-Apr-23	13-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4AB	4AB	5AB							
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	Chrysotile	NAD							A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-							A-T-045
Asbestos Matrix (microscope)$_{D}$	-	Loose Fibres	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A							A-T-045
Asbestos in Soil Quantification % (Hand Picking & Weighing)										
Asbestos in soil % composition (hand picking and weighing)$_{D}$	-	<0.001	-					% w/w	0.001	A-T-054

Envirolab Job Number: 23/03693

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/03693/15	23/03693/16	23/03693/17					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	TP301	TP302	TP302							
Depth to Top	0.50	0.40	1.10							
Depth To Bottom										
Date Sampled	13-Apr-23	13-Apr-23	13-Apr-23							
Sample Type	Soil - ES	Soil - ES	Soil - ES							
Sample Matrix Code	4AB	4AB	5AB							
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.01	0.17	<0.01					mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	<0.01	0.05	<0.01					mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.02	0.27	<0.02					mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.12	0.91	<0.04					mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.16	1.05	<0.04					mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.16	1.07	<0.05					mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.12	0.71	<0.05					mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	<0.07	0.49	<0.07					mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.12	0.92	<0.06					mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A^{M\#}$	<0.04	0.14	<0.04					mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.18	1.73	<0.08					mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.01	0.11	<0.01					mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.12	0.77	<0.03					mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	<0.03	0.08	<0.03					mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.13	1.04	<0.03					mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.18	1.68	<0.07					mg/kg	0.07	A-T-019s
Total PAH-16MS$_A^{M\#}$	1.33	11.2	<0.08					mg/kg	0.01	A-T-019s

REPORT NOTES

General

This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received with the same delivery, will be disposed of six weeks after initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of six months after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and interpretations expressed are outside the scope of our accreditation.
If results are in italic font they are associated with an AQC failure, these are not accredited and are unreliable.
A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.
The Client Sample No, Client Sample ID, Depth to Top, Depth to Bottom and Date Sampled were all provided by the client.

Soil chemical analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any “A” subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH analysis of water by method A-T-007:
Free and visible oils are excluded from the sample used for analysis so that the reported result represents the dissolved phase only.

Electrical Conductivity of water by Method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the calibration range and as such are unaccredited.

Asbestos:
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis.
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Predominant Matrix Codes:
1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample, 9 = INCINERATOR ASH.
Samples with Matrix Code 7 & 8 are not predominantly a SAND/LOAM/CLAY mix and are not covered by our BSEN 17025 or MCERTS accreditations, with the exception of bulk asbestos which are BSEN 17025 accredited.
Secondary Matrix Codes:
A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal,
E = contains roots/twigs.

Key:
IS indicates Insufficient Sample for analysis.
US indicates Unsuitable Sample for analysis.
NDP indicates No Determination Possible.
NAD indicates No Asbestos Detected.
N/A indicates Not Applicable.
Superscript # indicates method accredited to ISO 17025.
Superscript "M" indicates method accredited to MCERTS.
Subscript "A" indicates analysis performed on the sample as received.
Subscript "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve
Subscript "^" indicates analysis has dependant options against results. Testing dependant on results appear in the comments area of your sample receipt.
EPH CWG results have humics mathematically subtracted through instrument calculation
TPH results "with Cleanup" indicates results cleaned up with Silica during extraction

EPH CWG GCxGC ID from TPH CWG

Where we have identified humic substances in any ID's from TPH CWG with Clean Up please note that the concentration of these humic substances is not included in the quantified results and are included in the ID for information.

Please contact us if you need any further information.

v2

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-04

Clients Project No: 4328

Project No: 23/03693

Date Received: 19/04/2023 (am)

Cool Box Temperatures (°C): 9.0,9.6,9.9,9.1,12.6

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12
Client Sample No												
Client Sample ID/Depth	TP310 0.50m	TP307 0.30m	TP307 0.60m	TP305 0.50m	TP305 1.50m	TP308 0.10m	TP308 0.80m	WS309 0.40m	WS309 1.00m	WS309 3.00-3.50m	TP306 0.50m	TP304 0.20m
Date Sampled	12/04/23	12/04/23	12/04/23	12/04/23	12/04/23	12/04/23	12/04/23	11/04/23	11/04/23	11/04/23	13/04/23	13/04/23
A-T-004s	24/04/2023								24/04/2023		24/04/2023	
A-T-004w	21/04/2023		05/05/2023					05/05/2023				
A-T-006s	25/04/2023		25/04/2023					25/04/2023				
A-T-006w	21/04/2023		02/05/2023					02/05/2023				
A-T-007s	24/04/2023								24/04/2023		24/04/2023	
A-T-019s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-019w	21/04/2023		02/05/2023					02/05/2023				
A-T-022s	03/05/2023		26/04/2023					26/04/2023	26/04/2023		26/04/2023	
A-T-022w	21/04/2023		02/05/2023					02/05/2023				
A-T-024s	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-025w	21/04/2023		28/04/2023					28/04/2023	03/05/2023		03/05/2023	
A-T-026s	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023
A-T-026w	21/04/2023		02/05/2023					02/05/2023	03/05/2023		03/05/2023	
A-T-026w (F)	21/04/2023								03/05/2023		03/05/2023	
A-T-027s	28/04/2023	27/04/2023	28/04/2023	28/04/2023	27/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-030s	26/04/2023								21/04/2023		26/04/2023	
A-T-031s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-031w	21/04/2023		02/05/2023					02/05/2023	03/05/2023		03/05/2023	
A-T-032s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-032w	21/04/2023		02/05/2023					02/05/2023	03/05/2023		03/05/2023	
A-T-037w	21/04/2023								03/05/2023		03/05/2023	
A-T-040s	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023
A-T-040w	21/04/2023		02/05/2023					02/05/2023				
A-T-042sTCN	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
A-T-044	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-045	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023		20/04/2023	20/04/2023
A-T-050s	26/04/2023	26/04/2023	26/04/2023	27/04/2023	26/04/2023	25/04/2023	25/04/2023	28/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-050w	21/04/2023								03/05/2023		03/05/2023	
A-T-052s	27/04/2023		27/04/2023					24/04/2023				
A-T-054		01/05/2023						01/05/2023	01/05/2023			
A-T-055s	24/04/2023		24/04/2023					24/04/2023				
A-T-055w	21/04/2023		02/05/2023					02/05/2023				

Lab Sample ID	23/03693/1	23/03693/2	23/03693/3	23/03693/4	23/03693/5	23/03693/6	23/03693/7	23/03693/8	23/03693/9	23/03693/10	23/03693/11	23/03693/12
Client Sample No												
Client Sample ID/Depth	TP310 0.50m	TP307 0.30m	TP307 0.60m	TP305 0.50m	TP305 1.50m	TP308 0.10m	TP308 0.80m	WS309 0.40m	WS309 1.00m	WS309 3.00-3.50m	TP306 0.50m	TP304 0.20m
Date Sampled	12/04/23	12/04/23	12/04/23	12/04/23	12/04/23	12/04/23	12/04/23	11/04/23	11/04/23	11/04/23	13/04/23	13/04/23
A-T-ANCs	27/04/2023								27/04/2023		27/04/2023	
Calc	28/04/2023	28/04/2023	02/05/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023	02/05/2023	03/05/2023	28/04/2023	03/05/2023	28/04/2023
Calc-As Recd	03/05/2023		02/05/2023					02/05/2023				
Calc-no stones	03/05/2023								03/05/2023		03/05/2023	
Probe (w)	21/04/2023								03/05/2023		03/05/2023	

Lab Sample ID	23/03693/13	23/03693/14	23/03693/15	23/03693/16	23/03693/17
Client Sample No					
Client Sample ID/Depth	TP304 0.50m	TP304 1.50m	TP301 0.50m	TP302 0.40m	TP302 1.10m
Date Sampled	13/04/23	13/04/23	13/04/23	13/04/23	13/04/23
A-T-004s	24/04/2023		24/04/2023		
A-T-004w					
A-T-006s					
A-T-006w					
A-T-007s	24/04/2023		24/04/2023		
A-T-019s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-019w					
A-T-022s	26/04/2023		26/04/2023		
A-T-022w					
A-T-024s	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-025w	03/05/2023		03/05/2023		
A-T-026s	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023
A-T-026w	03/05/2023		03/05/2023		
A-T-026w (F)	03/05/2023		03/05/2023		
A-T-027s	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-030s	26/04/2023		26/04/2023		
A-T-031s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-031w	03/05/2023		03/05/2023		
A-T-032s	26/04/2023	26/04/2023	26/04/2023	26/04/2023	26/04/2023
A-T-032w	03/05/2023		03/05/2023		
A-T-037w	03/05/2023		03/05/2023		
A-T-040s	28/04/2023	28/04/2023	28/04/2023	28/04/2023	28/04/2023
A-T-040w					
A-T-042sTCN	21/04/2023	21/04/2023	21/04/2023	21/04/2023	21/04/2023
A-T-044	27/04/2023	27/04/2023	27/04/2023	27/04/2023	27/04/2023
A-T-045	20/04/2023	20/04/2023	20/04/2023	20/04/2023	20/04/2023
A-T-050s	25/04/2023	25/04/2023	25/04/2023	25/04/2023	25/04/2023
A-T-050w	03/05/2023		03/05/2023		
A-T-052s					
A-T-054				01/05/2023	
A-T-055s					
A-T-055w					
A-T-ANCs	27/04/2023		27/04/2023		
Calc	03/05/2023	28/04/2023	03/05/2023	28/04/2023	28/04/2023

Lab Sample ID	23/03693/13	23/03693/14	23/03693/15	23/03693/16	23/03693/17
Client Sample No					
Client Sample ID/Depth	TP304 0.50m	TP304 1.50m	TP301 0.50m	TP302 0.40m	TP302 1.10m
Date Sampled	13/04/23	13/04/23	13/04/23	13/04/23	13/04/23
Calc-As Recd					
Calc-no stones	03/05/2023		03/05/2023		
Probe (w)	03/05/2023		03/05/2023		

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/05401
Issue Number: 1 **Date:** 01 December, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Linden Richardson/Reece McGuinness
Project Name: Dantzic St, Manchester
Project Ref: G328
Order No: 1858
Date Samples Received: 02/06/23
Date Instructions Received: 02/06/23
Date Analysis Completed: 13/06/23

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 23/05401

Client Project Name: Dantzic St, Manchester

Client Project Ref: G328

Lab Sample ID	**23/05401/1**							**Units**	**Limit of Detection**	**Method ref**
Client Sample No										
Client Sample ID	**SS301**									
Depth to Top										
Depth To Bottom										
Date Sampled	**02-Jun-23**									
Sample Type	**WATER - EW**									
Sample Matrix Code	**N/A**									
pH (w)$_{A}^{\#}$	**7.88**							**pH**	**0.01**	A-T-031w
Dissolved Oxygen$_{A}$	**9.9**							**mg/l**	**0.5**	A-T-048
COD (settled)$_{A}^{\#}$	**14**							**mg/l**	**5**	A-T-034w
BOD (settled, 5 day)$_{A}$	**2**							**mg/l**	**1**	A-T-048
Sulphate (w)$_{A}^{\#}$	**60**							**mg/l**	**1**	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	**4.2**							**mg/l**	**2**	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	**3**							**µg/l**	**1**	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	**<0.2**							**µg/l**	**0.2**	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	**50**							**mg/l**	**1**	A-T-049w
Copper (dissolved)$_{A}$	**<4**							**µg/l**	**4**	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	**<1**							**µg/l**	**1**	A-T-025w
Lead (dissolved)$_{A}^{\#}$	**<1**							**µg/l**	**1**	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	**<0.1**							**µg/l**	**0.1**	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	**4**							**µg/l**	**2**	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	**<1**							**µg/l**	**1**	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	**25**							**µg/l**	**2**	A-T-025w

Envirolab Job Number: 23/05401

Client Project Name: Dantzic St, Manchester

Client Project Ref: G328

Lab Sample ID	23/05401/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS301									
Depth to Top										
Depth To Bottom										
Date Sampled	02-Jun-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	<0.01^U							µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	<0.01							µg/l	0.01	A-T-019w

Envirolab Job Number: 23/05401

Client Project Name: Dantzic St, Manchester

Client Project Ref: G328

Lab Sample ID	23/05401/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS301									
Depth to Top										
Depth To Bottom										
Date Sampled	02-Jun-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
SVOC (excluding PAH-16) (w)										
1,2,4-Trichlorobenzene$_A$	<1							µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1							µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1							µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1							µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1							µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1							µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1							µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1							µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1							µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1							µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1							µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1							µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1							µg/l	1	A-T-052w
2-Methylphenol$_A$	<1							µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1							µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1							µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1							µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1							µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1							µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1							µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1							µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1							µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10							µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1							µg/l	1	A-T-052w
Carbazole$_A$	<1							µg/l	1	A-T-052w
Dibenzofuran$_A$	<1							µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1							µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10							µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1							µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1							µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1							µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1							µg/l	1	A-T-052w

Envirolab Job Number: 23/05401

Client Project Name: Dantzic St, Manchester

Client Project Ref: G328

Lab Sample ID	23/05401/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS301									
Depth to Top										
Depth To Bottom										
Date Sampled	02-Jun-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
Hexachlorobenzene SVOC$_A$	<1							µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1							µg/l	1	A-T-052w
Phenol$_A$	<1							µg/l	1	A-T-052w
Hexachloroethane$_A$	<1							µg/l	1	A-T-052w
Nitrobenzene$_A$	<1							µg/l	1	A-T-052w
Isophorone$_A$	<1							µg/l	1	A-T-052w
Perylene$_A$	<1							µg/l	1	A-T-052w

Envirolab Job Number: 23/05401

Client Project Name: Dantzic St, Manchester

Client Project Ref: G328

Lab Sample ID	23/05401/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS301									
Depth to Top										
Depth To Bottom										
Date Sampled	02-Jun-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
VOC (w)										
Dichlorodifluoromethane$_A$	<1							µg/l	1	A-T-006w
Chloromethane$_A$	<10							µg/l	10	A-T-006w
Vinyl Chloride$_A^\#$	<1							µg/l	1	A-T-006w
Bromomethane$_A^\#$	<1							µg/l	1	A-T-006w
Chloroethane$_A^\#$	<1							µg/l	1	A-T-006w
Trichlorofluoromethane$_A^\#$	<1							µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^\#$	<1							µg/l	1	A-T-006w
Dichloromethane$_A$	<5							µg/l	5	A-T-006w
Carbon Disulphide$_A^\#$	<1							µg/l	1	A-T-006w
1,1-Dichloroethene$_A^\#$	<1							µg/l	1	A-T-006w
1,1-Dichloroethane$_A^\#$	<1							µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^\#$	<1							µg/l	1	A-T-006w
Bromochloromethane$_A^\#$	<5							µg/l	5	A-T-006w
Chloroform$_A^\#$	<1							µg/l	1	A-T-006w
2,2-Dichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dichloroethane$_A^\#$	<2							µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^\#$	<1							µg/l	1	A-T-006w
1,1-Dichloropropene$_A^\#$	<1							µg/l	1	A-T-006w
Benzene$_A^\#$	<1							µg/l	1	A-T-006w
Carbon Tetrachloride$_A^\#$	<1							µg/l	1	A-T-006w
Dibromomethane$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
Bromodichloromethane$_A^\#$	<10							µg/l	10	A-T-006w
Trichloroethene$_A^\#$	<1							µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^\#$	<1							µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^\#$	<1							µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^\#$	<1							µg/l	1	A-T-006w
Toluene$_A^\#$	<1							µg/l	1	A-T-006w
1,3-Dichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
Dibromochloromethane$_A^\#$	<3							µg/l	3	A-T-006w
1,2-Dibromoethane$_A^\#$	<1							µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1							µg/l	1	A-T-006w

Envirolab Job Number: 23/05401 **Client Project Name: Dantzic St, Manchester**

Client Project Ref: G328

Lab Sample ID	23/05401/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS301									
Depth to Top										
Depth To Bottom										
Date Sampled	02-Jun-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
1,1,1,2-Tetrachloroethane$_A$	<1							µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1							µg/l	1	A-T-006w
Bromoform$_A^\#$	<1							µg/l	3	A-T-006w
Styrene$_A^\#$	<1							µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1							µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1							µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1							µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1							µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1							µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1							µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2							µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2							µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3							µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3							µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1							µg/l	1	A-T-006w

Envirolab Job Number: 23/05401

Client Project Name: Dantzic St, Manchester

Client Project Ref: G328

Lab Sample ID	23/05401/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	SS301									
Depth to Top										
Depth To Bottom										
Date Sampled	02-Jun-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5							µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5							µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10							µg/l	10	A-T-055w
Total Aromatics $(w)_A$	<10							µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	<10							µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1							µg/l	1	A-T-022w

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Dantzic St, Manchester

Clients Project No: G328

Project No: 23/05401

Date Received: 02/06/2023 (pm)

Cool Box Temperatures (°C): 15.1

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/05401/1
Client Sample No	
Client Sample ID/Depth	SS301
Date Sampled	02/06/23
A-T-006w	06/06/2023
A-T-019w	12/06/2023
A-T-022w	06/06/2023
A-T-025w	13/06/2023
A-T-026w	07/06/2023
A-T-031w	07/06/2023
A-T-032w	07/06/2023
A-T-034w	08/06/2023
A-T-048	07/06/2023
A-T-049w	07/06/2023
A-T-052w	08/06/2023
A-T-055w	12/06/2023
Calc-As Recd	12/06/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/09229
Issue Number: 1 **Date:** 01 December, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-04
Project Ref: 4328
Order No: 1910
Date Samples Received: 18/09/23
Date Instructions Received: 18/09/23
Date Analysis Completed: 03/10/23

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
% Stones >10mm$_A$	2.8	13.5	<0.1	1.2	12.8			% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.89	8.02	8.46	8.67	8.34			pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	1450	1420	47	93	28			mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1			mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	0.4	<0.2	<0.4	<0.2			mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.1198	0.0651	0.0632	0.0249	0.0025			N/A	0.0003	A-T-032s
Antimony$_D$	50	26	7	<5	<5			mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	13	5	12	4	5			mg/kg	1	A-T-024s
Barium$_D$	1430	503	188	124	30			mg/kg	1	A-T-024s
Beryllium$_D$	0.6	<0.5	1.1	1.2	0.5			mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	5.8	18.6	13.4	1.7	1.4			mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	15.4	7.0	1.6	0.7	0.7			mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	4520	1520	502	62	10			mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	161	88	33	30	16			mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1			mg/kg	1	A-T-040s
Chromium (trivalent)	161	88	33	30	16			mg/kg	1	Calc
Lead$_D$$^{M\#}$	1220	700	254	48	9			mg/kg	1	A-T-024s
Mercury$_D$	4.76	3.31	0.87	0.18	<0.17			mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	26	16	3	<1	<1			mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	303	80	36	29	16			mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	2	<1	1	<1	<1			mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	32	25	29	33	17			mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	5180	3390	305	57	33			mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	-	*	-	*	-					A-T-001
pH (leachable)$_A$	-	7.08	-	7.62	-			pH	0.01	A-T-031w
Sulphate (leachable)$_A$	-	480.01	-	<1.00	-			mg/l	1	A-T-026w
DOC (leachable)$_A$	-	20.2	-	17.9	-			mg/l	2	A-T-032w
Antimony (leachable)$_A$	-	4	-	9	-			µg/l	1	A-T-025w
Arsenic (leachable)$_A$	-	1	-	16	-			µg/l	1	A-T-025w
Boron (leachable)$_A$	-	1910	-	226	-			µg/l	10	A-T-025w
Barium (leachable)$_A$	-	86	-	163	-			µg/l	1	A-T-025w
Beryllium (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-025w
Cadmium (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-025w

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
Copper (leachable)$_A$	-	<4	-	18	-			µg/l	4	A-T-025w
Chromium (leachable)$_A$	-	<1	-	1	-			µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	-	<0.05	-	<0.05	-			mg/l	0.05	A-T-040w
Chromium (trivalent)	-	<0.05	-	<0.05	-			mg/l	0.05	Calc
Lead (leachable)$_A$	-	4	-	62	-			µg/l	1	A-T-025w
Mercury (leachable)$_A$	-	<0.1	-	<0.1	-			µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	-	156	-	25	-			µg/l	1	A-T-025w
Nickel (leachable)$_A$	-	15	-	<2	-			µg/l	2	A-T-025w
Selenium (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-025w
Vanadium (leachable)$_A$	-	<1	-	8	-			µg/l	1	A-T-025w
Zinc (leachable)$_A$	-	12	-	14	-			µg/l	2	A-T-025w
Carbon Disulphide (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-006w
1,2,4-Trimethylbenzene (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-006w
Styrene (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-006w

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	NAD	-					A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-					A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-					A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A	-					A-T-045

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.07	0.43	0.31	0.03	<0.01			mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.01	0.02	0.02	<0.01	<0.01			mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.06	0.27	0.47	0.04	<0.02			mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.33	0.85	1.25	<0.04	<0.04			mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.40	0.66	0.95	<0.04	<0.04			mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.49	0.72	1.14	<0.05	<0.05			mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.34	0.40	0.59	<0.05	<0.05			mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.17	0.28	0.49	<0.07	<0.07			mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.39	0.85	1.34	<0.06	<0.06			mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A$	<0.04	0.06	0.09	<0.04	<0.04			mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	0.62	2.11	3.40	<0.08	<0.08			mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.06	0.30	0.22	0.03	<0.01			mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.38	0.49	0.73	<0.03	<0.03			mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.12^U	0.40^U	0.14	<0.03^U	<0.03^U			mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.36	1.74	2.09	0.16	<0.03			mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	0.67	2.13	3.17	<0.07	<0.07			mg/kg	0.07	A-T-019s
Total PAH-16MS$_A$	4.47	11.7	16.4	0.26	<0.08			mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	-	0.09	-	<0.02	-			µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	-	<0.02	-	<0.02	-			µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	-	0.03	-	<0.02	-			µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	-	0.03	-	<0.02	-			µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	-	0.02	-	<0.02	-			µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	-	0.02	-	<0.02	-			µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	-	0.02	-	<0.02	-			µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	-	<0.02	-	<0.02	-			µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	-	0.03	-	<0.02	-			µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	-	<0.02	-	<0.02	-			µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	-	0.09	-	0.03	-			µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	-	0.05	-	<0.02	-			µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	-	0.03	-	<0.02	-			µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	-	0.37	-	<0.02	-			µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	-	0.14	-	0.04	-			µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	-	0.08	-	0.03	-			µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	-	1.00	-	0.10	-			µg/l	0.02	A-T-019w

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	-	0.008	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	-	0.004	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	-	0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	-	<0.002	-	<0.002	-			µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	-	0.014	-	<0.002	-			µg/l	0.002	A-T-004w

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Diethyl phthalate$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	-	449	<100	<100	<100			µg/kg	100	A-T-052s
Dibenzofuran$_A$	-	233	436	<100	<100			µg/kg	100	A-T-052s
Carbazole$_A$	-	279	367	<100	<100			µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	-	1000	<100	<100	<100			µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	-	200000	<500	<500	<500			µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
4-Nitrophenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	-	575	<100	<100	<100			µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2-Nitrophenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2-Methylphenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2-Chlorophenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	-	1150	<100	<100	<100			µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	-	168	<100	<100	<100			µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	-	365	244	<100	<100			µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Phenol$_A$	-	292	<100	<100	<100			µg/kg	100	A-T-052s
Pentachlorophenol$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
n-Dioctylphthalate$_A$	-	5930	<500	<500	<500			µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	-	797	<100	<100	<100			µg/kg	100	A-T-052s
Nitrobenzene$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Isophorone$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Hexachloroethane$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	-	<100	<100	<100	<100			µg/kg	100	A-T-052s
Perylene$_A$	-	<1000	1390	<100	<100			µg/kg	100	A-T-052s

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
VOC										
Dichlorodifluoromethane$_{A}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Chloromethane$_{A}$	-	<250	<250	<250	<10			µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Dichloromethane$_{A}$	-	<125	<125	<125	<5			µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	-	<125	<125	<125	<5			µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	-	<50	<50	<50	<2			µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	-	<250	<250	<250	<10			µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	-	<75	<75	<75	<3			µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
Chlorobenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	-	<25^{U}	<25^{U}	<25^{U}	<1^{U}			µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	3	A-T-006s
Isopropylbenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	-	<50	<50	<50	<2			µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	-	<50	<50	<50	<2			µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	-	<75	<75	<75	<3			µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	-	<25	<25	<25	<1			µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	-	<75	<75	<75	<3			µg/kg	3	A-T-006s

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	-	<2	-	<2	-			µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	-	<6	-	<6	-			µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	-	11	-	<10	-			µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	-	<10	-	<10	-			µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	-	20	-	<10	-			µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	-	23	-	<10	-			µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	-	128	-	<20	-			µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	-	23	-	<10	-			µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	-	221	-	<20	-			µg/l	10	Calc-As Recd
Aro >C5-C7 (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	-	57	-	<10	-			µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	-	108	-	<10	-			µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	-	162	-	<10	-			µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	-	92	-	<10	-			µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	-	<10	-	<10	-			µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	-	499	-	<20	-			µg/l	20	Calc-As Recd
TPH (Ali & Aro >C5-C44) (leachable)$_A$	-	720	-	<20	-			µg/l	20	Calc-As Recd
BTEX - Benzene (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	-	2	-	<1	-			µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	-	1	-	<1	-			µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-022w
MTBE (leachable)$_A$	-	<1	-	<1	-			µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	-	43	-	<20	-			µg/l	20	A-T-055w

Envirolab Job Number: 23/09229

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6			Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403	RBH403	RBH403	RBH403	RBH403					
Depth to Top	0.5	3.5	6.00	9.90	10.05					
Depth To Bottom										
Date Sampled	13-Sep-23	13-Sep-23	14-Sep-23	14-Sep-23	14-Sep-23					
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES					
Sample Matrix Code	6AE	6AE	6AE	3B	1AB					
TPH UKCWG with Clean Up										
Ali >C5-C6$_A$	-	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	-	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	-	<10	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	-	<10	<1	<1	<1			mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	-	43	4	<1	<1			mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	-	114	6	<1	<1			mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	-	2310	59	3	2			mg/kg	1	A-T-055s
Ali >C35-C44$_A$	-	502	32	<1	<1			mg/kg	1	A-T-055s
Total Aliphatics$_A$	-	2970	101	3	2			mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	-	<10	1	1	<1			mg/kg	1	A-T-055s
Aro >C10-C12$_A$	-	16	4	<1	<1			mg/kg	1	A-T-055s
Aro >C12-C16$_A^{M\#}$	-	56	17	<1	<1			mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	-	159	73	<1	<1			mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	-	320	220	3	<1			mg/kg	1	A-T-055s
Aro >C35-C44$_A$	-	91	26	<1	<1			mg/kg	1	A-T-055s
Total Aromatics$_A$	-	641	341	4	<1			mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	-	3620	441	6	2			mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	-	0.04	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	-	0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	-	0.02	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	-	<0.01	<0.01	<0.01	<0.01			mg/kg	0.01	A-T-022s

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-04

Clients Project No: 4328

Project No: 23/09229

Date Received: 18/09/2023 (am)

Cool Box Temperatures (°C): 15.2

NO DEVIATIONS IDENTIFIED with respect to sampling dates or containers received.

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6
Client Sample No					
Client Sample ID/Depth	RBH403 0.5m	RBH403 3.5m	RBH403 6.00m	RBH403 9.90m	RBH403 10.05m
Date Sampled	13/09/23	13/09/23	14/09/23	14/09/23	14/09/23
A-T-004s		03/10/2023			
A-T-004w		22/09/2023		22/09/2023	
A-T-006s		22/09/2023	22/09/2023	22/09/2023	22/09/2023
A-T-006w		22/09/2023		22/09/2023	
A-T-007s		25/09/2023			
A-T-019s	21/09/2023	21/09/2023	25/09/2023	21/09/2023	21/09/2023
A-T-019w		26/09/2023		26/09/2023	
A-T-022s		22/09/2023	26/09/2023	22/09/2023	22/09/2023
A-T-022w		25/09/2023		25/09/2023	
A-T-024s	26/09/2023	26/09/2023	27/09/2023	26/09/2023	26/09/2023
A-T-025w		26/09/2023		26/09/2023	
A-T-026s	22/09/2023	22/09/2023	27/09/2023	22/09/2023	22/09/2023
A-T-026w		26/09/2023		22/09/2023	
A-T-026w (F)		26/09/2023			
A-T-027s	25/09/2023	25/09/2023	25/09/2023	25/09/2023	25/09/2023
A-T-030s		22/09/2023			
A-T-031s	25/09/2023	25/09/2023	26/09/2023	25/09/2023	25/09/2023
A-T-031w		26/09/2023		21/09/2023	
A-T-032s	25/09/2023	25/09/2023	25/09/2023	25/09/2023	25/09/2023
A-T-032w		26/09/2023		25/09/2023	
A-T-037w		26/09/2023			
A-T-040s	22/09/2023	22/09/2023	27/09/2023	22/09/2023	22/09/2023
A-T-040w		22/09/2023		22/09/2023	
A-T-042sTCN	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
A-T-044	21/09/2023	21/09/2023	21/09/2023	21/09/2023	21/09/2023
A-T-045	20/09/2023	20/09/2023	20/09/2023	20/09/2023	
A-T-050s	22/09/2023	25/09/2023	22/09/2023	26/09/2023	22/09/2023
A-T-050w		26/09/2023			
A-T-052s		25/09/2023	25/09/2023	25/09/2023	25/09/2023
A-T-055s		22/09/2023	22/09/2023	22/09/2023	22/09/2023
A-T-055w		25/09/2023		25/09/2023	
A-T-ANCs		25/09/2023			

Lab Sample ID	23/09229/1	23/09229/2	23/09229/4	23/09229/5	23/09229/6
Client Sample No					
Client Sample ID/Depth	RBH403 0.5m	RBH403 3.5m	RBH403 6.00m	RBH403 9.90m	RBH403 10.05m
Date Sampled	13/09/23	13/09/23	14/09/23	14/09/23	14/09/23
Calc	26/09/2023	26/09/2023	27/09/2023	26/09/2023	26/09/2023
Calc-As Recd		25/09/2023	26/09/2023	25/09/2023	22/09/2023
Calc-no stones		26/09/2023			
Probe (w)		26/09/2023			

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/09425
Issue Number: 1 **Date:** 02 October, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-04
Project Ref: 4328
Order No: 1910
Date Samples Received: 22/09/23
Date Instructions Received: 22/09/23
Date Analysis Completed: 02/10/23

Approved by:



Richard Wong
Client Manager

mCERTS THE ENVIRONMENT AGENCY'S MONITORING CERTIFICATION SCHEME
UKAS TESTING 1247

Envirolab Job Number: 23/09425

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH401	RBH401	RBH401							
Depth to Top	6.50	8.00	15.00							
Depth To Bottom										
Date Sampled	20-Sep-23	21-Sep-23	21-Sep-23							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	6A	3	4A							
% Stones >10mm$_A$	<0.1	<0.1	21.6					% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	8.29	7.86	8.28					pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	331	301	34					mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2					mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0156	0.0146	0.0013					N/A	0.0003	A-T-032s
Antimony$_D$	<5	<5	<5					mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	6	2	<1					mg/kg	1	A-T-024s
Barium$_D$	123	139	20					mg/kg	1	A-T-024s
Beryllium$_D$	1.5	1.2	<0.5					mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	1.6	1.7	1.4					mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	0.9	0.9	<0.5					mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	41	36	7					mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	29	32	7					mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1					mg/kg	1	A-T-040s
Chromium (trivalent)	29	32	7					mg/kg	1	Calc
Lead$_D$$^{M\#}$	79	20	5					mg/kg	1	A-T-024s
Mercury$_D$	0.35	<0.17	<0.17					mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	1	<1	<1					mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	29	27	8					mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1					mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	30	35	9					mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	71	64	16					mg/kg	5	A-T-024s

Envirolab Job Number: 23/09425

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH401	RBH401	RBH401							
Depth to Top	6.50	8.00	15.00							
Depth To Bottom										
Date Sampled	20-Sep-23	21-Sep-23	21-Sep-23							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	6A	3	4A							
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD							A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-							A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-							A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A							A-T-045

Envirolab Job Number: 23/09425

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH401	RBH401	RBH401							
Depth to Top	6.50	8.00	15.00							
Depth To Bottom										
Date Sampled	20-Sep-23	21-Sep-23	21-Sep-23							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	6A	3	4A							
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.09	<0.01	<0.01					mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.02	<0.01	<0.01					mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.22	<0.02	<0.02					mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.65	<0.04	<0.04					mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.67	<0.04	<0.04					mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.72	<0.05	<0.05					mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.26	<0.05	<0.05					mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.29	<0.07	<0.07					mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	0.85	<0.06	<0.06					mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A$	0.07	<0.04	<0.04					mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	1.02	<0.08	<0.08					mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.10	<0.01	<0.01					mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.30	<0.03	<0.03					mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.06	<0.03	<0.03					mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.91	<0.03	<0.03					mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	1.16	<0.07	<0.07					mg/kg	0.07	A-T-019s
Total PAH-16MS$_A$	7.39	<0.08	<0.08					mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/09425

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH401	RBH401	RBH401							
Depth to Top	6.50	8.00	15.00							
Depth To Bottom										
Date Sampled	20-Sep-23	21-Sep-23	21-Sep-23							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	6A	3	4A							
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	-	<100					µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	-	<100					µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	-	<100					µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	-	<100					µg/kg	100	A-T-052s
Dibenzofuran$_A$	<100	-	<100					µg/kg	100	A-T-052s
Carbazole$_A$	<100	-	<100					µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	-	<100					µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	-	<500					µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	-	<100					µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	-	<100					µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	-	<100					µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	-	<100					µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	-	<100					µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	-	<100					µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	-	<100					µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	-	<100					µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	-	<100					µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	<100	-	<100					µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	-	<100					µg/kg	100	A-T-052s
Phenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	-	<100					µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	-	<100					µg/kg	100	A-T-052s

Envirolab Job Number: 23/09425

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH401	RBH401	RBH401							
Depth to Top	6.50	8.00	15.00							
Depth To Bottom										
Date Sampled	20-Sep-23	21-Sep-23	21-Sep-23							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	6A	3	4A							
n-Dioctylphthalate$_A$	<500	-	<500					µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	-	<100					µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	-	<100					µg/kg	100	A-T-052s
Isophorone$_A$	<100	-	<100					µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	-	<100					µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	-	<100					µg/kg	100	A-T-052s
Perylene$_A$	393	-	<100					µg/kg	100	A-T-052s

Envirolab Job Number: 23/09425

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH401	RBH401	RBH401							
Depth to Top	6.50	8.00	15.00							
Depth To Bottom										
Date Sampled	20-Sep-23	21-Sep-23	21-Sep-23							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	6A	3	4A							
VOC										
Dichlorodifluoromethane$_{A}$	<25	-	<1					µg/kg	1	A-T-006s
Chloromethane$_{A}$	<250	-	<10					µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<125	-	<5					µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<125	-	<5					µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<50	-	<2					µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<250	-	<10					µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<75	-	<3					µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s

Envirolab Job Number: 23/09425

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH401	RBH401	RBH401							
Depth to Top	6.50	8.00	15.00							
Depth To Bottom										
Date Sampled	20-Sep-23	21-Sep-23	21-Sep-23							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	6A	3	4A							
Chlorobenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<25	-	<1					µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<25^{U}	-	<1^{U}					µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<25	-	<1					µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<50	-	<2					µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<25	-	<1					µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<50	-	<2					µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<75	-	<3					µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<25	-	<1					µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<75	-	<3					µg/kg	3	A-T-006s

Envirolab Job Number: 23/09425

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5					Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH401	RBH401	RBH401							
Depth to Top	6.50	8.00	15.00							
Depth To Bottom										
Date Sampled	20-Sep-23	21-Sep-23	21-Sep-23							
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES							
Sample Matrix Code	6A	3	4A							
TPH UKCWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	0.05	<0.01					mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	<1	<1	<1					mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	4	<1	<1					mg/kg	1	A-T-055s
Ali >C35-C44$_A$	2	<1	<1					mg/kg	1	A-T-055s
Total Aliphatics$_A$	6	<1	<1					mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	<2	<2	<2					mg/kg	1	A-T-055s
Aro >C10-C12$_A$	1	<1	<1					mg/kg	1	A-T-055s
Aro >C12-C16$_A^{M\#}$	9	<1	<1					mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	22	<1	<1					mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	60	<1	<1					mg/kg	1	A-T-055s
Aro >C35-C44$_A$	2	<1	<1					mg/kg	1	A-T-055s
Total Aromatics$_A$	95	<2	<2					mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	101	<2	<2					mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01					mg/kg	0.01	A-T-022s

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-04

Clients Project No: 4328

Project No: 23/09425

Date Received: 22/09/2023 (am)

Cool Box Temperatures (°C): 10.1

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/09425/2	23/09425/4	23/09425/5
Client Sample No			
Client Sample ID/Depth	RBH401 6.50m	RBH401 8.00m	RBH401 15.00m
Date Sampled	20/09/23	21/09/23	21/09/23
A-T-006s	27/09/2023		26/09/2023
A-T-019s	29/09/2023	29/09/2023	29/09/2023
A-T-022s	28/09/2023	28/09/2023	28/09/2023
A-T-024s	02/10/2023	02/10/2023	02/10/2023
A-T-026s	29/09/2023	29/09/2023	29/09/2023
A-T-027s	29/09/2023	29/09/2023	29/09/2023
A-T-031s	29/09/2023	29/09/2023	29/09/2023
A-T-032s	02/10/2023	02/10/2023	02/10/2023
A-T-040s	29/09/2023	29/09/2023	29/09/2023
A-T-042sTCN	26/09/2023	26/09/2023	26/09/2023
A-T-044	02/10/2023	02/10/2023	02/10/2023
A-T-045	25/09/2023	25/09/2023	25/09/2023
A-T-050s	28/09/2023	28/09/2023	28/09/2023
A-T-052s	27/09/2023		27/09/2023
A-T-055s	27/09/2023	27/09/2023	27/09/2023
Calc	02/10/2023	02/10/2023	02/10/2023
Calc-As Recd	28/09/2023	28/09/2023	28/09/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/09491
Issue Number: 1 **Date:** 10 October, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02 - NT04
Project Ref: 4328
Order No: 1910
Date Samples Received: 21/09/23
Date Instructions Received: 25/09/23
Date Analysis Completed: 10/10/23

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

Envirolab Job Number: 23/09491

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/09491/2	23/09491/3	23/09491/4	23/09491/7				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH402	RBH402	RBH402	RBH401						
Depth to Top	1.50	3.70	5.30	1.00						
Depth To Bottom										
Date Sampled	19-Sep-23	19-Sep-23	19-Sep-23	20-Sep-23						
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
% Stones >10mm$_A$	5.7	2.0	14.4	6.7				% w/w	0.1	A-T-044
pH$_D^{M\#}$	8.28	8.13	8.22	8.63				pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D^{M\#}$	447	834	257	393				mg/l	10	A-T-026s
Cyanide (total)$_A^{M\#}$	<1	<1	<1	<1				mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	0.8				mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D^{\#}$	0.0276	0.4854	0.0211	0.1398				N/A	0.0003	A-T-032s
Antimony$_D$	6	<5	6	35				mg/kg	5	A-T-024s
Arsenic$_D^{M\#}$	8	25	4	39				mg/kg	1	A-T-024s
Barium$_D$	213	104	123	539				mg/kg	1	A-T-024s
Beryllium$_D$	0.7	1.9	0.8	0.7				mg/kg	0.5	A-T-024s
Boron (water soluble)$_D^{M\#}$	14.4	5.4	1.7	44.2				mg/kg	1	A-T-027s
Cadmium$_D^{M\#}$	0.9	1.2	0.5	18.3				mg/kg	0.5	A-T-024s
Copper$_D^{M\#}$	97	394	41	3060				mg/kg	1	A-T-024s
Chromium$_D^{M\#}$	25	14	25	140				mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1				mg/kg	1	A-T-040s
Chromium (trivalent)	25	14	25	140				mg/kg	1	Calc
Lead$_D^{M\#}$	161	96	635	697				mg/kg	1	A-T-024s
Mercury$_D$	0.55	<0.17	0.54	11.7				mg/kg	0.17	A-T-024s
Molybdenum$_D^{M\#}$	2	7	<1	27				mg/kg	1	A-T-024s
Nickel$_D^{M\#}$	20	32	24	128				mg/kg	1	A-T-024s
Selenium$_D^{M\#}$	<1	<1	<1	<1				mg/kg	1	A-T-024s
Vanadium$_D^{M\#}$	23	31	23	34				mg/kg	1	A-T-024s
Zinc$_D^{M\#}$	245	74	48	2390				mg/kg	5	A-T-024s
Leachate Prep BS EN 12457-1 (2:1) (3 no)$_A$	*	-	-	-						A-T-001
pH (leachable)$_A$	7.47	-	-	-				pH	0.01	A-T-031w
Sulphate (leachable)$_A$	290.10	-	-	-				mg/l	1	A-T-026w
DOC (leachable)$_A$	19.5	-	-	-				mg/l	2	A-T-032w
Antimony (leachable)$_A$	10	-	-	-				µg/l	1	A-T-025w
Arsenic (leachable)$_A$	11	-	-	-				µg/l	1	A-T-025w
Boron (leachable)$_A$	3680	-	-	-				µg/l	10	A-T-025w
Barium (leachable)$_A$	102	-	-	-				µg/l	1	A-T-025w
Beryllium (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-025w
Cadmium (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-025w

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Client Project Ref: 4328

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Client Sample No										
Client Sample ID	RBH402	RBH402	RBH402	RBH401						
Depth to Top	1.50	3.70	5.30	1.00						
Depth To Bottom										
Date Sampled	19-Sep-23	19-Sep-23	19-Sep-23	20-Sep-23						
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
Copper (leachable)$_A$	6	-	-	-				µg/l	4	A-T-025w
Chromium (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-025w
Chromium (hexavalent) (leachable)$_A$	<0.05	-	-	-				mg/l	0.05	A-T-040w
Chromium (trivalent)	<0.05	-	-	-				mg/l	0.05	Calc
Lead (leachable)$_A$	18	-	-	-				µg/l	1	A-T-025w
Mercury (leachable)$_A$	<0.1	-	-	-				µg/l	0.1	A-T-025w
Molybdenum (leachable)$_A$	102	-	-	-				µg/l	1	A-T-025w
Nickel (leachable)$_A$	6	-	-	-				µg/l	2	A-T-025w
Selenium (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-025w
Vanadium (leachable)$_A$	2	-	-	-				µg/l	1	A-T-025w
Zinc (leachable)$_A$	15	-	-	-				µg/l	2	A-T-025w
1,2,4-Trimethylbenzene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-006w
Isopropylbenzene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-006w
n-propylbenzene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-006w
Styrene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-006w
Carbon Disulphide (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-006w
Hexachlorobutadiene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-006w

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Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	NAD	NAD	NAD						A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-						A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-						A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	N/A	N/A	N/A						A-T-045

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Depth To Bottom										
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Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
PAH-16MS										
Acenaphthene$_A^{M\#}$	0.25	0.09	<0.01	0.56				mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.02	<0.01	<0.01	0.03				mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	0.24	0.14	<0.02	0.58				mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	0.99	0.34	<0.04	1.04				mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.05	0.29	<0.04	0.85				mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	1.35	0.41	<0.05	1.34				mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.74	0.17	<0.05	0.61				mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.51	0.14	<0.07	0.44				mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.10	0.39	<0.06	1.29				mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A$	0.15	<0.04	<0.04	0.13				mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	2.10	0.76	<0.08	2.53				mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.15	0.05	<0.01	0.71				mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.83	0.20	<0.03	0.66				mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	0.13	0.06	<0.03	0.61				mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	0.97	0.64	0.05	2.84				mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	2.02	0.70	<0.07	2.79				mg/kg	0.07	A-T-019s
Total PAH-16MS$_A$	12.6	4.38	<0.08	17				mg/kg	0.01	A-T-019s

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Client Sample No										
Client Sample ID	RBH402	RBH402	RBH402	RBH401						
Depth to Top	1.50	3.70	5.30	1.00						
Depth To Bottom										
Date Sampled	19-Sep-23	19-Sep-23	19-Sep-23	20-Sep-23						
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
PAH 16MS (leachable)										
Acenaphthene (leachable)$_A$	0.45	-	-	-				µg/l	0.02	A-T-019w
Acenaphthylene (leachable)$_A$	<0.02	-	-	-				µg/l	0.02	A-T-019w
Anthracene (leachable)$_A$	0.04	-	-	-				µg/l	0.02	A-T-019w
Benzo(a)anthracene (leachable)$_A$	0.07	-	-	-				µg/l	0.02	A-T-019w
Benzo(a)pyrene (leachable) $_A$	0.05	-	-	-				µg/l	0.02	A-T-019w
Benzo(b)fluoranthene (leachable)$_A$	0.08	-	-	-				µg/l	0.02	A-T-019w
Benzo(ghi)perylene (leachable)$_A$	0.03	-	-	-				µg/l	0.02	A-T-019w
Benzo(k)fluoranthene (leachable)$_A$	0.03	-	-	-				µg/l	0.02	A-T-019w
Chrysene (leachable)$_A$	0.09	-	-	-				µg/l	0.02	A-T-019w
Dibenzo(ah)anthracene (leachable)$_A$	<0.02	-	-	-				µg/l	0.02	A-T-019w
Fluoranthene (leachable)$_A$	0.26	-	-	-				µg/l	0.02	A-T-019w
Fluorene (leachable)$_A$	0.11	-	-	-				µg/l	0.02	A-T-019w
Indeno(123-cd)pyrene (leachable)$_A$	0.03	-	-	-				µg/l	0.02	A-T-019w
Naphthalene (leachable) $_A$	0.06	-	-	-				µg/l	0.02	A-T-019w
Phenanthrene (leachable)$_A$	0.11	-	-	-				µg/l	0.02	A-T-019w
Pyrene (leachable)$_A$	0.21	-	-	-				µg/l	0.02	A-T-019w
Total PAH 16MS (leachable)$_A$	1.62	-	-	-				µg/l	0.02	A-T-019w

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Client Sample No										
Client Sample ID	RBH402	RBH402	RBH402	RBH401						
Depth to Top	1.50	3.70	5.30	1.00						
Depth To Bottom										
Date Sampled	19-Sep-23	19-Sep-23	19-Sep-23	20-Sep-23						
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
Speciated PCB-EC7 & WHO12 (leachable)										
PCB BZ 28 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 52 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 101 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 118 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 138 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 153 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 180 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 77 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 81 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 105 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 114 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 123 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 126 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 156 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 157 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 167 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 169 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
PCB BZ 189 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w
Total Speciated PCB-EC7 & WHO12 (leachable)$_A$	<0.002	-	-	-				µg/l	0.002	A-T-004w

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Client Sample No										
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Depth to Top	1.50	3.70	5.30	1.00						
Depth To Bottom										
Date Sampled	19-Sep-23	19-Sep-23	19-Sep-23	20-Sep-23						
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	-	129				µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	-	230				µg/kg	100	A-T-052s
Dibenzofuran$_A$	241	<100	-	324				µg/kg	100	A-T-052s
Carbazole$_A$	271	<100	-	418				µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	-	380				µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	-	52200				µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	-	565				µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	-	172				µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	146	<100	-	506				µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	-	365				µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s

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Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
n-Dioctylphthalate$_A$	<500	<500	-	5420				µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	-	924				µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	<100	-	<100				µg/kg	100	A-T-052s
Perylene$_A$	918	<100	-	398				µg/kg	100	A-T-052s

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Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
VOC										
Dichlorodifluoromethane$_{A}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<250	-	<250				µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	1	<25	-	46				µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<125	-	<125				µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<125	-	<125				µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<50	-	<50				µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<250	-	<250				µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<75	-	<75				µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s

Lab Sample ID	23/09491/2	23/09491/3	23/09491/4	23/09491/7				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH402	RBH402	RBH402	RBH401						
Depth to Top	1.50	3.70	5.30	1.00						
Depth To Bottom										
Date Sampled	19-Sep-23	19-Sep-23	19-Sep-23	20-Sep-23						
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
Chlorobenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<25	-	41				µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1^{U}	<25^{U}	-	<25^{U}				µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<50	-	<50				µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<50	-	<50				µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<75	-	<75				µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<25	-	<25				µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<75	-	<75				µg/kg	3	A-T-006s

Envirolab Job Number: 23/09491

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/09491/2	23/09491/3	23/09491/4	23/09491/7				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH402	RBH402	RBH402	RBH401						
Depth to Top	1.50	3.70	5.30	1.00						
Depth To Bottom										
Date Sampled	19-Sep-23	19-Sep-23	19-Sep-23	20-Sep-23						
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
TPH UKCWG (leachable) with Clean Up										
Ali >C5-C6 (leachable)$_A$	<2	-	-	-				µg/l	1	A-T-022w
Ali >C6-C8 (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
Ali >C8-C10 (leachable)$_A$	<10	-	-	-				µg/l	10	A-T-055w
Ali >C10-C12 (leachable)$_A$	<10	-	-	-				µg/l	10	A-T-055w
Ali >C12-C16 (leachable)$_A$	<10	-	-	-				µg/l	10	A-T-055w
Ali >C16-C21 (leachable)$_A$	<10	-	-	-				µg/l	10	A-T-055w
Ali >C21-C35 (leachable)$_A$	86	-	-	-				µg/l	20	A-T-055w
Ali >C35-C44 (leachable)$_A$	21	-	-	-				µg/l	10	A-T-055w
Total Aliphatics (leachable)$_A$	126	-	-	-				µg/l	10	Calc-As Recd
Aro >C5-C7 (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
Aro >C7-C8 (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
Aro >C8-C10 (leachable)$_A$	<10	-	-	-				µg/l	10	A-T-055w
Aro >C10-C12 (leachable)$_A$	17	-	-	-				µg/l	10	A-T-055w
Aro >C12-C16 (leachable)$_A$	47	-	-	-				µg/l	10	A-T-055w
Aro >C16-C21 (leachable)$_A$	38	-	-	-				µg/l	10	A-T-055w
Aro >C35-C44 (leachable)$_A$	<10	-	-	-				µg/l	10	A-T-055w
Total Aromatics (leachable) GCxGC$_A$	120	-	-	-				µg/l	20	Calc-As Recd
TPH (Ali & Aro >C5-C44) (leachable)$_A$	247	-	-	-				µg/l	20	Calc-As Recd
BTEX - Benzene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
BTEX - Toluene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
BTEX - Ethyl Benzene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
BTEX - o Xylene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
BTEX - m & p Xylene (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
MTBE (leachable)$_A$	<1	-	-	-				µg/l	1	A-T-022w
Aro >C21-C35 (leachable)$_A$	<20	-	-	-				µg/l	20	A-T-055w

Envirolab Job Number: 23/09491

Client Project Name: Plots NT02 - NT04

Client Project Ref: 4328

Lab Sample ID	23/09491/2	23/09491/3	23/09491/4	23/09491/7				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH402	RBH402	RBH402	RBH401						
Depth to Top	1.50	3.70	5.30	1.00						
Depth To Bottom										
Date Sampled	19-Sep-23	19-Sep-23	19-Sep-23	20-Sep-23						
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES						
Sample Matrix Code	6AE	4A	6AB	6AE						
TPH UKCWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.05				mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	<0.05				mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1	<1	<1	<1				mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	14				mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	2	<1	<1	63				mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	5	1	<1	192				mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	64	27	<1	1880				mg/kg	1	A-T-055s
Ali >C35-C44$_A$	40	7	<1	496				mg/kg	1	A-T-055s
Total Aliphatics$_A$	111	36	<1	2650				mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.05				mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.05				mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	2	<2	<2	34				mg/kg	1	A-T-055s
Aro >C10-C12$_A$	2	<1	<1	30				mg/kg	1	A-T-055s
Aro >C12-C16$_A^{M\#}$	9	5	<1	78				mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	27	15	<1	173				mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	130	35	<1	134				mg/kg	1	A-T-055s
Aro >C35-C44$_A$	11	2	<1	41				mg/kg	1	A-T-055s
Total Aromatics$_A$	182	57	<2	491				mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	293	94	<2	3140				mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.05				mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.05				mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	0.16				mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.05				mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	0.16				mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.05				mg/kg	0.01	A-T-022s

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02 - NT04

Clients Project No: 4328

Project No: 23/09491

Date Received: 25/09/2023 (am)

Cool Box Temperatures (°C): 10.7

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/09491/2	23/09491/3	23/09491/4	23/09491/7
Client Sample No				
Client Sample ID/Depth	RBH402 1.50m	RBH402 3.70m	RBH402 5.30m	RBH401 1.00m
Date Sampled	19/09/23	19/09/23	19/09/23	20/09/23
A-T-004s			02/10/2023	
A-T-004w	02/10/2023			
A-T-006s	28/09/2023	29/09/2023		29/09/2023
A-T-006w	02/10/2023			
A-T-007s			03/10/2023	
A-T-019s	04/10/2023	04/10/2023	02/10/2023	04/10/2023
A-T-019w	03/10/2023			
A-T-022s	29/09/2023	29/09/2023	29/09/2023	02/10/2023
A-T-022w	02/10/2023			
A-T-024s	03/10/2023	03/10/2023	03/10/2023	03/10/2023
A-T-025w	10/10/2023		09/10/2023	
A-T-026s	03/10/2023	03/10/2023	03/10/2023	03/10/2023
A-T-026w	02/10/2023		09/10/2023	
A-T-026w (F)			09/10/2023	
A-T-027s	03/10/2023	04/10/2023	04/10/2023	03/10/2023
A-T-030s			03/10/2023	
A-T-031s	03/10/2023	03/10/2023	03/10/2023	03/10/2023
A-T-031w	02/10/2023		09/10/2023	
A-T-032s	03/10/2023	03/10/2023	03/10/2023	03/10/2023
A-T-032w	04/10/2023		09/10/2023	
A-T-037w			09/10/2023	
A-T-040s	03/10/2023	03/10/2023	03/10/2023	03/10/2023
A-T-040w	02/10/2023			
A-T-042sTCN	29/09/2023	29/09/2023	29/09/2023	29/09/2023
A-T-044	03/10/2023	03/10/2023	03/10/2023	03/10/2023
A-T-045	28/09/2023	28/09/2023	28/09/2023	28/09/2023
A-T-050s	29/09/2023	29/09/2023	29/09/2023	29/09/2023
A-T-050w			09/10/2023	
A-T-052s	03/10/2023	03/10/2023		03/10/2023
A-T-055s	29/09/2023	29/09/2023	29/09/2023	29/09/2023
A-T-055w	02/10/2023			
A-T-ANCs			03/10/2023	

Lab Sample ID	23/09491/2	23/09491/3	23/09491/4	23/09491/7
Client Sample No				
Client Sample ID/Depth	RBH402 1.50m	RBH402 3.70m	RBH402 5.30m	RBH401 1.00m
Date Sampled	19/09/23	19/09/23	19/09/23	20/09/23
Calc	09/10/2023	03/10/2023	03/10/2023	03/10/2023
Calc-As Recd	02/10/2023	29/09/2023	29/09/2023	02/10/2023
Calc-no stones			09/10/2023	
Probe (w)			09/10/2023	

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/10932
Issue Number: 1 **Date:** 20 November, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-04
Project Ref: 4328
Order No: 4328
Date Samples Received: 02/11/23
Date Instructions Received: 06/11/23
Date Analysis Completed: 20/11/23

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH505	RBH503	RBH503	RBH501	RBH501	RBH504	RBH504			
Depth to Top	2.10	1.20	4.00	0.80	2.00	1.50	1.90			
Depth To Bottom										
Date Sampled	31-Oct-23	31-Oct-23	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	1A	6AB	1A	3	6A	6A	4A			
% Stones >10mm$_A$	<0.1	<0.1	<0.1	<0.1	26.8	3.0	<0.1	% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	9.31	8.16	8.40	8.05	7.76	7.94	7.38	pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	13	167	25	83	51	68	11	mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2	<0.2	<0.2	<0.2	0.7	0.9	mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0010	0.0553	0.0003	0.0052	0.0039	0.0927	0.0830	N/A	0.0003	A-T-032s
Antimony$_D$	<5	<5	<5	<5	<5	146	10	mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	<1	17	<1	3	3	91	20	mg/kg	1	A-T-024s
Barium$_D$	26	119	13	88	75	203	135	mg/kg	1	A-T-024s
Beryllium$_D$	<0.5	1.3	<0.5	1.1	0.7	1.1	1.8	mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	2.7	<1.0	<1.0	<1.0	1.5	1.9	mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5	0.5	<0.5	<0.5	<0.5	1.4	0.5	mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	12	70	6	16	12	1700	112	mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	9	23	8	26	15	16	30	mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-040s
Chromium (trivalent)	9	23	8	26	15	16	30	mg/kg	1	Calc
Lead$_D$$^{M\#}$	7	139	6	22	8	44100	3020	mg/kg	1	A-T-024s
Mercury$_D$	<0.17	0.21	<0.17	<0.17	<0.17	2.66	<0.17	mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1	2	<1	<1	<1	4	3	mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	8	27	6	26	18	38	30	mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1	<1	<1	<1	<1	<1	mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	8	30	11	23	15	22	50	mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	22	78	21	59	32	502	107	mg/kg	5	A-T-024s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH505	RBH503	RBH503	RBH501	RBH501	RBH504	RBH504			
Depth to Top	2.10	1.20	4.00	0.80	2.00	1.50	1.90			
Depth To Bottom										
Date Sampled	31-Oct-23	31-Oct-23	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	1A	6AB	1A	3	6A	6A	4A			
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	-	NAD	-	NAD	-	NAD	NAD			A-T-045
Asbestos Matrix (visual)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-	-	-	-	-	-			A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	-	N/A	-	N/A	-	N/A	N/A			A-T-045

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Client Project Name: Plots NT02-04

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Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH505	RBH503	RBH503	RBH501	RBH501	RBH504	RBH504			
Depth to Top	2.10	1.20	4.00	0.80	2.00	1.50	1.90			
Depth To Bottom										
Date Sampled	31-Oct-23	31-Oct-23	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	1A	6AB	1A	3	6A	6A	4A			
PAH-16MS										
Acenaphthene$_A^{M\#}$	1.40	<0.01	0.05	<0.01	<0.01	203	195	mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.27	<0.01	<0.01	<0.01	<0.01	1.04	4.12	mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	3.13	<0.02	0.07	<0.02	<0.02	82.5	71	mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	5.08	<0.04	0.09	<0.04	<0.04	9.87	11.9	mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	3.85	<0.04	0.06	<0.04	<0.04	1.81	2.07	mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	4.22	<0.05	0.07	<0.05	<0.05	2.40	3.13	mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	1.77	<0.05	<0.05	<0.05	<0.05	0.48	0.29	mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	1.51	<0.07	<0.07	<0.07	<0.07	0.94	1.31	mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	5.26	<0.06	0.09	<0.06	<0.06	8.08	10	mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A$	0.45	<0.04	<0.04	<0.04	<0.04	0.18	0.13	mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	12.5	<0.08	0.21	<0.08	<0.08	65.6	88.4	mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	1.77	0.02	0.05	<0.01	<0.01	94.7	137	mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	2.03	<0.03	<0.03	<0.03	<0.03	0.55	0.45	mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	1.67	<0.03	<0.03	<0.03	<0.03	494	752	mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	14.2	0.09	0.34	<0.03	<0.03	293	410	mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	12.5	<0.07	0.20	<0.07	<0.07	49.7	66.8	mg/kg	0.07	A-T-019s
Total PAH-16MS$_A$	71.6	0.11	1.23	<0.08	<0.08	1310	1750	mg/kg	0.01	A-T-019s

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Client Project Ref: 4328

Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH505	RBH503	RBH503	RBH501	RBH501	RBH504	RBH504			
Depth to Top	2.10	1.20	4.00	0.80	2.00	1.50	1.90			
Depth To Bottom										
Date Sampled	31-Oct-23	31-Oct-23	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	1A	6AB	1A	3	6A	6A	4A			
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Dibenzofuran$_A$	739	<100	<100	<100	<100	62300	85800	µg/kg	100	A-T-052s
Carbazole$_A$	914	<100	<100	<100	<100	9080	11900	µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500	<500	<500	<500	<10000	<10000	µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	692	<100	<100	<100	<100	126000	179000	µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Phenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s

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Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH505	RBH503	RBH503	RBH501	RBH501	RBH504	RBH504			
Depth to Top	2.10	1.20	4.00	0.80	2.00	1.50	1.90			
Depth To Bottom										
Date Sampled	31-Oct-23	31-Oct-23	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	1A	6AB	1A	3	6A	6A	4A			
n-Dioctylphthalate$_A$	<500	<500	<500	<500	<500	<10000	<10000	µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s
Perylene$_A$	1590	<100	<100	<100	<100	<2000	<2000	µg/kg	100	A-T-052s

Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH505	RBH503	RBH503	RBH501	RBH501	RBH504	RBH504			
Depth to Top	2.10	1.20	4.00	0.80	2.00	1.50	1.90			
Depth To Bottom										
Date Sampled	31-Oct-23	31-Oct-23	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	1A	6AB	1A	3	6A	6A	4A			
VOC										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Chloromethane$_A$	<10	<10	<10	<10	<10	<10	<10	µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_A$#	<1^U	<1^U	<1	<1^U	<1^U	<1^U	<1	µg/kg	1	A-T-006s
Bromomethane$_A$#	<1^U	<1^U	<1	<1^U	<1^U	<1^U	<1	µg/kg	1	A-T-006s
Chloroethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Trichlorofluoromethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloroethene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Carbon Disulphide$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Dichloromethane$_A$	<5	<5	<5	<5	<5	<5	<5	µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_A$#	<1	<1	<1	<1	<1	<1	3	µg/kg	1	A-T-006s
1,1-Dichloroethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_A$#	<1	<1	<1	<1	<1	<1	6	µg/kg	1	A-T-006s
2,2-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromochloromethane$_A$#	<5	<5	<5	<5	<5	<5	<5	µg/kg	5	A-T-006s
Chloroform$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Carbon Tetrachloride$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,2-Dichloroethane$_A$#	<2	<2	<2	<2	<2	<2	<2	µg/kg	2	A-T-006s
Benzene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Trichloroethene$_A$#	<1	<1	<1	151	<1	49	9	µg/kg	1	A-T-006s
1,2-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Dibromomethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromodichloromethane$_A$#	<10	<10	<10	<10	<10	<10	<10	µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Toluene$_A$#	<1	<1	<1	<1	<1	<1	1	µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,3-Dichloropropane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Tetrachloroethene$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Dibromochloromethane$_A$#	<3	<3	<3	<3	<3	<3	<3	µg/kg	3	A-T-006s
1,2-Dibromoethane$_A$#	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH505	RBH503	RBH503	RBH501	RBH501	RBH504	RBH504			
Depth to Top	2.10	1.20	4.00	0.80	2.00	1.50	1.90			
Depth To Bottom										
Date Sampled	31-Oct-23	31-Oct-23	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	1A	6AB	1A	3	6A	6A	4A			
Chlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	56	42	µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1	<1	<1	<1	43	66	µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1	<1	<1	<1	37	34	µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	39	18	µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	9	µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	191	85	µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2	<2	<2	<2	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	38	<1	<1	<1	483	251	µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	3	µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1	<1	<1	<1	114	26	µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	120	43	µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2	<2	<2	<2	<2	<2	µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3	<3	<3	<3	<3	<3	µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3	<3	<3	<3	<3	<3	µg/kg	3	A-T-006s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH505	RBH503	RBH503	RBH501	RBH501	RBH504	RBH504			
Depth to Top	2.10	1.20	4.00	0.80	2.00	1.50	1.90			
Depth To Bottom										
Date Sampled	31-Oct-23	31-Oct-23	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23			
Sample Type	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES	SOIL - ES			
Sample Matrix Code	1A	6AB	1A	3	6A	6A	4A			
TPH UKCWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	4	<1	<1	<1	<1	30	<50	mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	<1	<1	<1	<1	<1	193	79	mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	2	<1	<1	<1	<1	593	157	mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	4	2	<1	<1	<1	547	152	mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	130	26	9	<1	<1	2230	753	mg/kg	1	A-T-055s
Ali >C35-C44$_A$	29	5	1	<1	<1	213	<50	mg/kg	1	A-T-055s
Total Aliphatics$_A$	169	33	10	<1	<1	3800	1140	mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	2	<2	<2	<2	<2	<40	<100	mg/kg	1	A-T-055s
Aro >C10-C12$_A$	11	<1	<1	<1	<1	1530	2560	mg/kg	1	A-T-055s
Aro >C12-C16$_A$	39	5	<1	<1	<1	3720	6560	mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	147	12	<1	<1	<1	2290	3650	mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	265	20	2	<1	<1	564	607	mg/kg	1	A-T-055s
Aro >C35-C44$_A$	24	1	<1	<1	<1	<20	<50	mg/kg	1	A-T-055s
Total Aromatics$_A$	488	38	2	<2	<2	8090	13400	mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	657	71	12	<2	<2	11900	14500	mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	0.12	0.09	mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	0.08	mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	0.14	<0.05	mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	mg/kg	0.01	A-T-022s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/14							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH504									
Depth to Top	3.10									
Depth To Bottom										
Date Sampled	02-Nov-23									
Sample Type	SOIL - ES									
Sample Matrix Code	4A									
% Stones >10mm$_A$	20.0							% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	7.89							pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	<10							mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1							mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	0.5							mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0024							N/A	0.0003	A-T-032s
Antimony$_D$	<5							mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	2							mg/kg	1	A-T-024s
Barium$_D$	41							mg/kg	1	A-T-024s
Beryllium$_D$	<0.5							mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0							mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	<0.5							mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	11							mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	13							mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1							mg/kg	1	A-T-040s
Chromium (trivalent)	13							mg/kg	1	Calc
Lead$_D$$^{M\#}$	54							mg/kg	1	A-T-024s
Mercury$_D$	<0.17							mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	<1							mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	13							mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1							mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	14							mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	25							mg/kg	5	A-T-024s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/14							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH504									
Depth to Top	3.10									
Depth To Bottom										
Date Sampled	02-Nov-23									
Sample Type	SOIL - ES									
Sample Matrix Code	4A									
PAH-16MS										
Acenaphthene$_A^{M\#}$	46.4							mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	1.14							mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	14.8							mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	1.95							mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	0.31							mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	0.52							mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.06							mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.20							mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	1.97							mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A$	<0.04							mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	18.2							mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	29.7							mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	0.07							mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	27.5							mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	101							mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	13.6							mg/kg	0.07	A-T-019s
Total PAH-16MS$_A$	257							mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/14							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH504									
Depth to Top	3.10									
Depth To Bottom										
Date Sampled	02-Nov-23									
Sample Type	SOIL - ES									
Sample Matrix Code	4A									
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<2000							µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<2000							µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<2000							µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<2000							µg/kg	100	A-T-052s
Dibenzofuran$_A$	20500							µg/kg	100	A-T-052s
Carbazole$_A$	2950							µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<2000							µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<10000							µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<2000							µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<2000							µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<2000							µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<2000							µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<2000							µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<2000							µg/kg	100	A-T-052s
2-Methylphenol$_A$	<2000							µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<2000							µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<2000							µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<2000							µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<2000							µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<2000							µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<2000							µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<2000							µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<2000							µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<2000							µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<2000							µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<2000							µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<2000							µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	33300							µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<2000							µg/kg	100	A-T-052s
Phenol$_A$	<2000							µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<2000							µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<2000							µg/kg	100	A-T-052s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/14							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH504									
Depth to Top	3.10									
Depth To Bottom										
Date Sampled	02-Nov-23									
Sample Type	SOIL - ES									
Sample Matrix Code	4A									
n-Dioctylphthalate$_A$	<10000							µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<2000							µg/kg	100	A-T-052s
Nitrobenzene$_A$	<2000							µg/kg	100	A-T-052s
Isophorone$_A$	<2000							µg/kg	100	A-T-052s
Hexachloroethane$_A$	<2000							µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<2000							µg/kg	100	A-T-052s
Perylene$_A$	<2000							µg/kg	100	A-T-052s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/14							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH504									
Depth to Top	3.10									
Depth To Bottom										
Date Sampled	02-Nov-23									
Sample Type	SOIL - ES									
Sample Matrix Code	4A									
VOC										
Dichlorodifluoromethane$_{A}$	<1							µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10							µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5							µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5							µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2							µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	7							µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10							µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3							µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/14							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH504									
Depth to Top	3.10									
Depth To Bottom										
Date Sampled	02-Nov-23									
Sample Type	SOIL - ES									
Sample Matrix Code	4A									
Chlorobenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1							µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	6							µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	4							µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	4							µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	12							µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1							µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	11							µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	56							µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2							µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	57							µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	2							µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	24							µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1							µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	56							µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2							µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3							µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1							µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3							µg/kg	3	A-T-006s

Envirolab Job Number: 23/10932

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/10932/14							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH504									
Depth to Top	3.10									
Depth To Bottom										
Date Sampled	02-Nov-23									
Sample Type	SOIL - ES									
Sample Matrix Code	4A									
TPH UKCWG with Clean Up										
Ali >C5-C6$_A$	<0.01							mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	<0.01							mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	<1							mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	2							mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	4							mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	4							mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	9							mg/kg	1	A-T-055s
Ali >C35-C44$_A$	<1							mg/kg	1	A-T-055s
Total Aliphatics$_A$	19							mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	3							mg/kg	1	A-T-055s
Aro >C10-C12$_A$	58							mg/kg	1	A-T-055s
Aro >C12-C16$_A$	227							mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	152							mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	25							mg/kg	1	A-T-055s
Aro >C35-C44$_A$	<1							mg/kg	1	A-T-055s
Total Aromatics$_A$	465							mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	484							mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	0.02							mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	0.02							mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	0.02							mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01							mg/kg	0.01	A-T-022s

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-04

Clients Project No: 4328

Project No: 23/10932

Date Received: 06/11/2023 (am)

Cool Box Temperatures (°C): 12.4 & 13.3

Lab Sample ID	23/10932/2	23/10932/4
Client Sample No		
Client Sample ID/Depth	RBH505 2.10m	RBH503 1.20m
Date Sampled	31/10/23	31/10/23
Deviation Code		
F	✓	✓

Key
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	23/10932/2	23/10932/4
Client Sample No		
Client Sample ID/Depth	RBH505 2.10m	RBH503 1.20m
Date Sampled	31/10/23	31/10/23
VOC	✓	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/10932/2	23/10932/4	23/10932/7	23/10932/9	23/10932/10	23/10932/12	23/10932/13	23/10932/14
Client Sample No								
Client Sample ID/Depth	RBH505 2.10m	RBH503 1.20m	RBH503 4.00m	RBH501 0.80m	RBH501 2.00m	RBH504 1.50m	RBH504 1.90m	RBH504 3.10m
Date Sampled	31/10/23	31/10/23	31/10/23	01/11/23	01/11/23	02/11/23	02/11/23	02/11/23
A-T-006s	20/11/2023	20/11/2023	16/11/2023	20/11/2023	20/11/2023	20/11/2023	16/11/2023	16/11/2023
A-T-019s	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	16/11/2023	14/11/2023
A-T-022s	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	17/11/2023	17/11/2023	14/11/2023
A-T-024s	15/11/2023	15/11/2023	15/11/2023	15/11/2023	15/11/2023	15/11/2023	15/11/2023	15/11/2023
A-T-026s	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023
A-T-027s	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023
A-T-031s	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023
A-T-032s	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023
A-T-040s	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023
A-T-042sTCN	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023
A-T-044	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023
A-T-045		09/11/2023		09/11/2023		09/11/2023	09/11/2023	
A-T-050s	13/11/2023	13/11/2023	13/11/2023	13/11/2023	13/11/2023	13/11/2023	14/11/2023	14/11/2023
A-T-052s	10/11/2023	10/11/2023	10/11/2023	10/11/2023	10/11/2023	16/11/2023	16/11/2023	16/11/2023
A-T-055s	10/11/2023	10/11/2023	10/11/2023	10/11/2023	10/11/2023	10/11/2023	10/11/2023	10/11/2023
Calc	15/11/2023	15/11/2023	15/11/2023	15/11/2023	15/11/2023	15/11/2023	15/11/2023	15/11/2023
Calc-As Recd	14/11/2023	14/11/2023	14/11/2023	14/11/2023	14/11/2023	17/11/2023	17/11/2023	14/11/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/10955
Issue Number: 1 **Date:** 17 November, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots N702-04
Project Ref: 4328
Order No: 1920
Date Samples Received: 06/11/23
Date Instructions Received: 06/11/23
Date Analysis Completed: 17/11/23

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 23/10955

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/10955/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403									
Depth to Top	15.50									
Depth To Bottom										
Date Sampled	06-Nov-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
pH (w)$_{A}^{\#}$	7.61							pH	0.01	A-T-031w
Dissolved Oxygen$_{A}$	11							mg/l	0.5	A-T-048
COD (settled)$_{A}^{\#}$	75							mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	3							mg/l	1	A-T-048
Sulphate (w)$_{A}^{\#}$	103							mg/l	1	A-T-026w
Phenols - Total by HPLC (w)$_{A}$	<0.10							mg/l	0.01	A-T-050w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	18.3							mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	49							µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	7.1							µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	33							mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	562							µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	21							µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	607							µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.5							µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	102							µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	20							µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	1253							µg/l	2	A-T-025w

Envirolab Job Number: 23/10955

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/10955/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403									
Depth to Top	15.50									
Depth To Bottom										
Date Sampled	06-Nov-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
PAH 16MS (w)										
Acenaphthene (w)$_A^\#$	0.06							µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^\#$	0.01							µg/l	0.01	A-T-019w
Anthracene (w)$_A^\#$	0.05							µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^\#$	0.22							µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^\#$	0.23							µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^\#$	0.29							µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^\#$	0.15							µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^\#$	0.13							µg/l	0.01	A-T-019w
Chrysene (w)$_A^\#$	0.24							µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^\#$	0.42							µg/l	0.01	A-T-019w
Fluorene (w)$_A^\#$	0.05							µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^\#$	0.15							µg/l	0.01	A-T-019w
Naphthalene (w)$_A^\#$	0.13							µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^\#$	0.26							µg/l	0.01	A-T-019w
Pyrene (w)$_A^\#$	0.40							µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^\#$	2.79							µg/l	0.01	A-T-019w

Envirolab Job Number: 23/10955

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/10955/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403									
Depth to Top	15.50									
Depth To Bottom										
Date Sampled	06-Nov-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
SVOC (excluding PAH-16) (w)										
1,2,4-Trichlorobenzene$_A$	<1							µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1							µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1							µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1							µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1							µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1							µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	<1							µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1							µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	<1							µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1							µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1							µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1							µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1							µg/l	1	A-T-052w
2-Methylphenol$_A$	<1							µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1							µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1							µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1							µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1							µg/l	1	A-T-052w
3+4-Methylphenol$_A$	1							µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1							µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1							µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1							µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10							µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1							µg/l	1	A-T-052w
Carbazole$_A$	<1							µg/l	1	A-T-052w
Dibenzofuran$_A$	<1							µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	14							µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10							µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1							µg/l	1	A-T-052w
Diethyl phthalate$_A$	2							µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1							µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1							µg/l	1	A-T-052w

Envirolab Job Number: 23/10955

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/10955/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403									
Depth to Top	15.50									
Depth To Bottom										
Date Sampled	06-Nov-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
Hexachlorobenzene SVOC$_A$	<1							µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1							µg/l	1	A-T-052w
Phenol$_A$	<1							µg/l	1	A-T-052w
Hexachloroethane$_A$	<1							µg/l	1	A-T-052w
Nitrobenzene$_A$	<1							µg/l	1	A-T-052w
Isophorone$_A$	<1							µg/l	1	A-T-052w
Perylene$_A$	<1							µg/l	1	A-T-052w

Envirolab Job Number: 23/10955

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/10955/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403									
Depth to Top	15.50									
Depth To Bottom										
Date Sampled	06-Nov-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
VOC (w)										
Dichlorodifluoromethane$_A$	<1							µg/l	1	A-T-006w
Chloromethane$_A$	<10							µg/l	10	A-T-006w
Vinyl Chloride$_A^{\#}$	<1							µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1							µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1							µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1							µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	<1							µg/l	1	A-T-006w
Dichloromethane$_A$	<5							µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1							µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1							µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1							µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	<1							µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5							µg/l	5	A-T-006w
Chloroform$_A^{\#}$	<1							µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1							µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2							µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1							µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1							µg/l	1	A-T-006w
Benzene$_A^{\#}$	<1							µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	<1							µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1							µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1							µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10							µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	<1							µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1							µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1							µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	<1							µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1							µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1							µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3							µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1							µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1							µg/l	1	A-T-006w

Envirolab Job Number: 23/10955

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/10955/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403									
Depth to Top	15.50									
Depth To Bottom										
Date Sampled	06-Nov-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
1,1,1,2-Tetrachloroethane$_A$	<1							µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1							µg/l	1	A-T-006w
Bromoform$_A^\#$	<1							µg/l	1	A-T-006w
Styrene$_A^\#$	<1							µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1							µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1							µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1							µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1							µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1							µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1							µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2							µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2							µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3							µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3							µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1							µg/l	1	A-T-006w

Envirolab Job Number: 23/10955

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/10955/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH403									
Depth to Top	15.50									
Depth To Bottom										
Date Sampled	06-Nov-23									
Sample Type	WATER - EW									
Sample Matrix Code	N/A									
TPH CWG (w) with Clean Up										
Ali >C5-C6 (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	<5							µg/l	5	A-T-055w
Total Aliphatics (w)$_A^{\#}$	<5							µg/l	5	Calc-As Recd
Aro >C5-C7 (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	6							µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	7							µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	24							µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	38							µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A$	<10							µg/l	10	A-T-055w
Total Aromatics (w)$_A$	75							µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) (w)$_A$	75							µg/l	10	Calc-As Recd
BTEX - Benzene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1							µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1							µg/l	1	A-T-022w

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots N702-04

Clients Project No: 4328

Project No: 23/10955

Date Received: 06/11/2023 (pm)

Cool Box Temperatures (°C): 9.8

Lab Sample ID	23/10955/1
Client Sample No	
Client Sample ID/Depth	RBH403 15.50m
Date Sampled	06/11/23
Deviation Code	
A7 (no HNO3)	✓

Key
A7 (no HNO3) *No HNO3 preserved bottle provided (dissolved metals will be deviating)*

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/10955/1
Client Sample No	
Client Sample ID/Depth	RBH403 15.50m
Date Sampled	06/11/23
A-T-006w	14/11/2023
A-T-019w	10/11/2023
A-T-022w	10/11/2023
A-T-025w	16/11/2023
A-T-026w	17/11/2023
A-T-031w	08/11/2023
A-T-032w	09/11/2023
A-T-034w	15/11/2023
A-T-048	13/11/2023
A-T-049w	13/11/2023
A-T-050w	17/11/2023
A-T-052w	13/11/2023
A-T-055w	10/11/2023
Calc-As Recd	10/11/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/11040
Issue Number: 1 **Date:** 21 November, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots NT02-04
Project Ref: 4328
Order No: 1920
Date Samples Received: 07/11/23
Date Instructions Received: 08/11/23
Date Analysis Completed: 21/11/23

Approved by:



Sophie France
Client Manager

Envirolab Job Number: 23/11040

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/11040/1	23/11040/4						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH502	RBH502								
Depth to Top	1	4.5								
Depth To Bottom										
Date Sampled	03-Nov-23	07-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	4AB	4A								
% Stones >10mm$_A$	14.4	8.0						% w/w	0.1	A-T-044
pH$_D$$^{M\#}$	10.59	7.24						pH	0.01	A-T-031s
Sulphate BRE (water sol 2:1)$_D$$^{M\#}$	115	34						mg/l	10	A-T-026s
Cyanide (total)$_A$$^{M\#}$	<1	<1						mg/kg	1	A-T-042sTCN
Phenols - Total by HPLC$_A$	<0.2	<0.2						mg/kg	0.2	A-T-050s
Fraction of organic carbon$_D$$^{\#}$	0.0180	0.0038						N/A	0.0003	A-T-032s
Antimony$_D$	26	<5						mg/kg	5	A-T-024s
Arsenic$_D$$^{M\#}$	13	<1						mg/kg	1	A-T-024s
Barium$_D$	98	24						mg/kg	1	A-T-024s
Beryllium$_D$	0.7	<0.5						mg/kg	0.5	A-T-024s
Boron (water soluble)$_D$$^{M\#}$	<1.0	<1.0						mg/kg	1	A-T-027s
Cadmium$_D$$^{M\#}$	0.6	<0.5						mg/kg	0.5	A-T-024s
Copper$_D$$^{M\#}$	71	5						mg/kg	1	A-T-024s
Chromium$_D$$^{M\#}$	20	7						mg/kg	1	A-T-024s
Chromium (hexavalent)$_D$	<1	<1						mg/kg	1	A-T-040s
Chromium (trivalent)	20	7						mg/kg	1	Calc
Lead$_D$$^{M\#}$	3610	6						mg/kg	1	A-T-024s
Mercury$_D$	<0.17	<0.17						mg/kg	0.17	A-T-024s
Molybdenum$_D$$^{M\#}$	2	<1						mg/kg	1	A-T-024s
Nickel$_D$$^{M\#}$	25	7						mg/kg	1	A-T-024s
Selenium$_D$$^{M\#}$	<1	<1						mg/kg	1	A-T-024s
Vanadium$_D$$^{M\#}$	21	10						mg/kg	1	A-T-024s
Zinc$_D$$^{M\#}$	158	16						mg/kg	5	A-T-024s

Envirolab Job Number: 23/11040

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/11040/1	23/11040/4						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH502	RBH502								
Depth to Top	1	4.5								
Depth To Bottom										
Date Sampled	03-Nov-23	07-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	4AB	4A								
Asbestos in Soil (inc. matrix)										
Asbestos in soil$_{D}^{\#}$	NAD	-								A-T-045
Asbestos Matrix (visual)$_{D}$	-	-								A-T-045
Asbestos Matrix (microscope)$_{D}$	-	-								A-T-045
Asbestos ACM - Suitable for Water Absorption Test?$_{D}$	N/A	-								A-T-045

Envirolab Job Number: 23/11040

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/11040/1	23/11040/4						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH502	RBH502								
Depth to Top	1	4.5								
Depth To Bottom										
Date Sampled	03-Nov-23	07-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	4AB	4A								
PAH-16MS										
Acenaphthene$_A^{M\#}$	1.02	0.05						mg/kg	0.01	A-T-019s
Acenaphthylene$_A^{M\#}$	0.05	0.17						mg/kg	0.01	A-T-019s
Anthracene$_A^{M\#}$	1.27	0.56						mg/kg	0.02	A-T-019s
Benzo(a)anthracene$_A^{M\#}$	2.51^U	0.09						mg/kg	0.04	A-T-019s
Benzo(a)pyrene$_A^{M\#}$	1.86	0.46						mg/kg	0.04	A-T-019s
Benzo(b)fluoranthene$_A^{M\#}$	2.31	0.32						mg/kg	0.05	A-T-019s
Benzo(ghi)perylene$_A^{M\#}$	0.94	0.46						mg/kg	0.05	A-T-019s
Benzo(k)fluoranthene$_A^{M\#}$	0.81	0.07						mg/kg	0.07	A-T-019s
Chrysene$_A^{M\#}$	2.51	0.14						mg/kg	0.06	A-T-019s
Dibenzo(ah)anthracene$_A$	0.20	0.07						mg/kg	0.04	A-T-019s
Fluoranthene$_A^{M\#}$	5.83	0.21						mg/kg	0.08	A-T-019s
Fluorene$_A^{M\#}$	0.70	0.08						mg/kg	0.01	A-T-019s
Indeno(123-cd)pyrene$_A^{M\#}$	1.06	0.54						mg/kg	0.03	A-T-019s
Naphthalene $_A^{M\#}$	1.10	0.13						mg/kg	0.03	A-T-019s
Phenanthrene$_A^{M\#}$	5.43	0.26						mg/kg	0.03	A-T-019s
Pyrene$_A^{M\#}$	4.94	0.17						mg/kg	0.07	A-T-019s
Total PAH-16MS$_A$	32.5	3.78						mg/kg	0.01	A-T-019s

Envirolab Job Number: 23/11040

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/11040/1	23/11040/4						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH502	RBH502								
Depth to Top	1	4.5								
Depth To Bottom										
Date Sampled	03-Nov-23	07-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	4AB	4A								
SVOC excluding PAH-16										
4-Bromophenyl phenyl ether$_A$	<100	<100						µg/kg	100	A-T-052s
Hexachlorobenzene$_A$	<100	<100						µg/kg	100	A-T-052s
Diethyl phthalate$_A$	<100	<100						µg/kg	100	A-T-052s
Dimethyl phthalate$_A$	<100	<100						µg/kg	100	A-T-052s
Dibenzofuran$_A$	868	333						µg/kg	100	A-T-052s
Carbazole$_A$	614	280						µg/kg	100	A-T-052s
Butylbenzyl phthalate$_A$	<100	<100						µg/kg	100	A-T-052s
Bis(2-ethylhexyl)phthalate$_A$	<500	<500						µg/kg	500	A-T-052s
Bis(2-chloroethoxy)methane$_A$	<100	<100						µg/kg	100	A-T-052s
Bis(2-chloroethyl)ether$_A$	<100	<100						µg/kg	100	A-T-052s
4-Nitrophenol$_A$	<100	<100						µg/kg	100	A-T-052s
3+4-Methylphenol$_A$	<100	<100						µg/kg	100	A-T-052s
4-Chloro-3-methylphenol$_A$	<100	<100						µg/kg	100	A-T-052s
2-Nitrophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2-Methylphenol$_A$	<100	<100						µg/kg	100	A-T-052s
1,2,4-Trichlorobenzene$_A$	<100	<100						µg/kg	100	A-T-052s
2-Chlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2,6-Dinitrotoluene$_A$	<100	<100						µg/kg	100	A-T-052s
2,4-Dinitrotoluene$_A$	<100	<100						µg/kg	100	A-T-052s
2,4-Dimethylphenol$_A$	<100	<100						µg/kg	100	A-T-052s
2,4-Dichlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2,4,6-Trichlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
2,4,5-Trichlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
1,4-Dichlorobenzene$_A$	<100	<100						µg/kg	100	A-T-052s
1,3-Dichlorobenzene$_A$	<100	<100						µg/kg	100	A-T-052s
1,2-Dichlorobenzene$_A$	<100	<100						µg/kg	100	A-T-052s
2-Chloronaphthalene$_A$	<100	<100						µg/kg	100	A-T-052s
2-Methylnaphthalene$_A$	868	318						µg/kg	100	A-T-052s
Bis(2-chloroisopropyl)ether$_A$	<100	<100						µg/kg	100	A-T-052s
Phenol$_A$	<100	<100						µg/kg	100	A-T-052s
Pentachlorophenol$_A$	<100	<100						µg/kg	100	A-T-052s
n-Nitroso-n-dipropylamine$_A$	<100	<100						µg/kg	100	A-T-052s

Envirolab Job Number: 23/11040

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/11040/1	23/11040/4						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH502	RBH502								
Depth to Top	1	4.5								
Depth To Bottom										
Date Sampled	03-Nov-23	07-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	4AB	4A								
n-Dioctylphthalate$_A$	<500	<500						µg/kg	500	A-T-052s
n-Dibutylphthalate$_A$	<100	<100						µg/kg	100	A-T-052s
Nitrobenzene$_A$	<100	<100						µg/kg	100	A-T-052s
Isophorone$_A$	<100	<100						µg/kg	100	A-T-052s
Hexachloroethane$_A$	<100	<100						µg/kg	100	A-T-052s
Hexachlorobutadiene$_A$	<100	<100						µg/kg	100	A-T-052s
Perylene$_A$	698	575						µg/kg	100	A-T-052s

Envirolab Job Number: 23/11040

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/11040/1	23/11040/4						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH502	RBH502								
Depth to Top	1	4.5								
Depth To Bottom										
Date Sampled	03-Nov-23	07-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	4AB	4A								
VOC										
Dichlorodifluoromethane$_{A}$	<1	<1						µg/kg	1	A-T-006s
Chloromethane$_{A}$	<10	<10						µg/kg	10	A-T-006s
Vinyl Chloride (Chloroethene)$_{A}^{\#}$	<1	<1^{U}						µg/kg	1	A-T-006s
Bromomethane$_{A}^{\#}$	<1	<1^{U}						µg/kg	1	A-T-006s
Chloroethane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Trichlorofluoromethane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,1-Dichloroethene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Carbon Disulphide$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Dichloromethane$_{A}$	<5	<5						µg/kg	5	A-T-006s
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,1-Dichloroethane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
2,2-Dichloropropane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Bromochloromethane$_{A}^{\#}$	<5	<5						µg/kg	5	A-T-006s
Chloroform$_{A}^{\#}$	<1	5						µg/kg	1	A-T-006s
1,1,1-Trichloroethane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,1-Dichloropropene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Carbon Tetrachloride$_{A}^{\#}$	2	28						µg/kg	1	A-T-006s
1,2-Dichloroethane$_{A}^{\#}$	<2	<2						µg/kg	2	A-T-006s
Benzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Trichloroethene$_{A}^{\#}$	18	11						µg/kg	1	A-T-006s
1,2-Dichloropropane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Dibromomethane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Bromodichloromethane$_{A}^{\#}$	<10	<10						µg/kg	10	A-T-006s
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Toluene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,1,2-Trichloroethane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,3-Dichloropropane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Tetrachloroethene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Dibromochloromethane$_{A}^{\#}$	<3	<3						µg/kg	3	A-T-006s
1,2-Dibromoethane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s

Envirolab Job Number: 23/11040

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/11040/1	23/11040/4						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH502	RBH502								
Depth to Top	1	4.5								
Depth To Bottom										
Date Sampled	03-Nov-23	07-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	4AB	4A								
Chlorobenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,1,1,2-Tetrachloroethane$_{A}$	<1	<1						µg/kg	1	A-T-006s
Ethylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
m & p Xylene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
o-Xylene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Styrene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Bromoform$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Isopropylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,1,2,2-Tetrachloroethane$_{A}$	<1	<1						µg/kg	1	A-T-006s
1,2,3-Trichloropropane$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
Bromobenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
n-Propylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
2-Chlorotoluene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
4-Chlorotoluene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
tert-Butylbenzene$_{A}^{\#}$	<2	<2						µg/kg	2	A-T-006s
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
sec-Butylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
4-Isopropyltoluene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,3-Dichlorobenzene$_{A}$	<1	<1						µg/kg	1	A-T-006s
1,4-Dichlorobenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
n-Butylbenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,2-Dichlorobenzene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,2-Dibromo-3-chloropropane (DCBP)$_{A}$	<2	<2						µg/kg	2	A-T-006s
1,2,4-Trichlorobenzene$_{A}$	<3	<3						µg/kg	3	A-T-006s
Hexachlorobutadiene$_{A}^{\#}$	<1	<1						µg/kg	1	A-T-006s
1,2,3-Trichlorobenzene$_{A}$	<3	<3						µg/kg	3	A-T-006s

Envirolab Job Number: 23/11040

Client Project Name: Plots NT02-04

Client Project Ref: 4328

Lab Sample ID	23/11040/1	23/11040/4						Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH502	RBH502								
Depth to Top	1	4.5								
Depth To Bottom										
Date Sampled	03-Nov-23	07-Nov-23								
Sample Type	SOIL - ES	SOIL - ES								
Sample Matrix Code	4AB	4A								
TPH UKCWG with Clean Up										
Ali >C5-C6$_A$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Ali >C6-C8$_A$	0.06	<0.01						mg/kg	0.01	A-T-022s
Ali >C8-C10$_A$	11	<1						mg/kg	1	A-T-055s
Ali >C10-C12$_A^{M\#}$	9	<1						mg/kg	1	A-T-055s
Ali >C12-C16$_A^{M\#}$	2	3						mg/kg	1	A-T-055s
Ali >C16-C21$_A^{M\#}$	4	21						mg/kg	1	A-T-055s
Ali >C21-C35$_A^{M\#}$	21	26						mg/kg	1	A-T-055s
Ali >C35-C44$_A$	24	7						mg/kg	1	A-T-055s
Total Aliphatics$_A$	71	58						mg/kg	1	Calc-As Recd
Aro >C5-C7$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Aro >C7-C8$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
Aro >C8-C10$_A$	4	3						mg/kg	1	A-T-055s
Aro >C10-C12$_A$	8	3						mg/kg	1	A-T-055s
Aro >C12-C16$_A$	26	21						mg/kg	1	A-T-055s
Aro >C16-C21$_A^{M\#}$	83	63						mg/kg	1	A-T-055s
Aro >C21-C35$_A^{M\#}$	194	168						mg/kg	1	A-T-055s
Aro >C35-C44$_A$	9	11						mg/kg	1	A-T-055s
Total Aromatics$_A$	324	269						mg/kg	1	Calc-As Recd
TPH (Ali & Aro >C5-C44)$_A$	395	327						mg/kg	1	Calc-As Recd
BTEX - Benzene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - Toluene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - Ethyl Benzene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - m & p Xylene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
BTEX - o Xylene$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s
MTBE$_A^{\#}$	<0.01	<0.01						mg/kg	0.01	A-T-022s

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots NT02-04

Clients Project No: 4328

Project No: 23/11040

Date Received: 08/11/2023 (am)

Cool Box Temperatures (°C): 7.0

NO DEVIATIONS IDENTIFIED

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/11040/1	23/11040/4
Client Sample No		
Client Sample ID/Depth	RBH502 1m	RBH502 4.5m
Date Sampled	03/11/23	07/11/23
A-T-006s	16/11/2023	16/11/2023
A-T-019s	21/11/2023	16/11/2023
A-T-022s	16/11/2023	15/11/2023
A-T-024s	17/11/2023	17/11/2023
A-T-026s	16/11/2023	16/11/2023
A-T-027s	16/11/2023	16/11/2023
A-T-031s	16/11/2023	16/11/2023
A-T-032s	16/11/2023	16/11/2023
A-T-040s	16/11/2023	16/11/2023
A-T-042sTCN	16/11/2023	16/11/2023
A-T-044	16/11/2023	16/11/2023
A-T-045	13/11/2023	
A-T-050s	16/11/2023	16/11/2023
A-T-052s	16/11/2023	16/11/2023
A-T-055s	16/11/2023	16/11/2023
Calc	16/11/2023	17/11/2023
Calc-As Recd	16/11/2023	16/11/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/11247
Issue Number: 1 **Date:** 01 December, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Plots N702-04
Project Ref: 4328
Order No: 1920
Date Samples Received: 13/11/23
Date Instructions Received: 14/11/23
Date Analysis Completed: 23/11/23

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

UKAS TESTING
1247

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/1	23/11247/2	23/11247/3	23/11247/4	23/11247/5	23/11247/6	23/11247/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	RBH302	RBH501	RBH502 P1	RBH503	RBH504	RBH505 P1			
Depth to Top	14.90	10.65	13.70	15.80	8.70	10.70	11.20			
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23			
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
pH (w)$_{A}^{\#}$	7.10	7.15	7.63	7.69	6.91	6.91	6.84	pH	0.01	A-T-031w
Dissolved Oxygen$_{A}$	7.4	9.5	9.6	9.5	9.4	9.5	9.1	mg/l	0.5	A-T-048
COD (settled)$_{A}^{\#}$	<5	5	25	14	13	22	13	mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	<1	<1	<1	9	2	<1	3	mg/l	1	A-T-048
Sulphate (w)$_{A}^{\#}$	81	123	57	70	278	254	223	mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	2.4	4.2	<2.0	4.8	4.1	8.9	4.2	mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	<1	<1	<1	4	11	<1	5	µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2	<0.2	<0.2	0.2	<0.2	0.2	<0.2	µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	121	131	102	46	236	221	226	mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	<4	<4	<4	6	<4	<4	<4	µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	4	8	2	2	<1	4	<1	µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<1	<1	<1	4	<1	11	<1	µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	<2	<2	13	5	<2	8	<2	µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	2	4	1	2	<1	1	<1	µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	6	9	9	9	4	5	4	µg/l	2	A-T-025w

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/1	23/11247/2	23/11247/3	23/11247/4	23/11247/5	23/11247/6	23/11247/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	RBH302	RBH501	RBH502 P1	RBH503	RBH504	RBH505 P1			
Depth to Top	14.90	10.65	13.70	15.80	8.70	10.70	11.20			
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23			
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	0.33	<0.01	<0.01	0.03	0.15	1.22	0.12	µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.02	0.02	<0.02	<0.02	<0.02	0.04	<0.02	µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	0.10	<0.01	<0.01	<0.01	0.08	0.05	0.04	µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	0.17	<0.01	<0.01	0.01	0.01	0.15	<0.01	µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	0.19	<0.01	<0.01	0.02	0.01	0.04	0.03	µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	0.06	0.02	0.07	<0.01	0.01	<0.01	0.21	µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	0.46	<0.01	<0.01	0.02	<0.01	<0.01	0.03	µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	0.13	<0.01	<0.01	0.02	<0.01	0.14	0.02	µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	1.44	0.04	0.07	0.10	0.26	1.64	0.45	µg/l	0.01	A-T-019w

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/1	23/11247/2	23/11247/3	23/11247/4	23/11247/5	23/11247/6	23/11247/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	RBH302	RBH501	RBH502 P1	RBH503	RBH504	RBH505 P1			
Depth to Top	14.90	10.65	13.70	15.80	8.70	10.70	11.20			
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23			
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
VOC (w)										
Dichlorodifluoromethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chloromethane$_A$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-006w
Vinyl Chloride$_A^{\#}$	<1	<1	<1	<1	44	<1	<1	µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	<1	<1	<1	<1	27	3	<1	µg/l	1	A-T-006w
Dichloromethane$_A$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	4	<1	2	<1	73	148	<1	µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-006w
Chloroform$_A^{\#}$	59	17	40	21	<1	13	<1	µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Benzene$_A^{\#}$	1	<1	<1	<1	21	<1	<1	µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	84	142	17	24	<1	14	<1	µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10	<10	<10	<10	<10	<10	<10	µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	215	2	27	3	<1	17	<1	µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	1	<1	<1	<1	<1	2	<1	µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1	<1	2	<1	<1	<1	<1	µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w

Envirolab Job Number: 23/11247 **Client Project Name: Plots N702-04**

Client Project Ref: 4328

Lab Sample ID	23/11247/1	23/11247/2	23/11247/3	23/11247/4	23/11247/5	23/11247/6	23/11247/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	RBH302	RBH501	RBH502 P1	RBH503	RBH504	RBH505 P1			
Depth to Top	14.90	10.65	13.70	15.80	8.70	10.70	11.20			
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23			
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
1,1,1,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromoform$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	3	A-T-006w
Styrene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2	<2	<2	<2	<2	<2	<2	µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3	<3	<3	<3	<3	<3	<3	µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-006w

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/1	23/11247/2	23/11247/3	23/11247/4	23/11247/5	23/11247/6	23/11247/7	Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	RBH203	RBH302	RBH501	RBH502 P1	RBH503	RBH504	RBH505 P1			
Depth to Top	14.90	10.65	13.70	15.80	8.70	10.70	11.20			
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23			
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW	WATER - GW			
Sample Matrix Code	N/A	N/A	N/A	N/A	N/A	N/A	N/A			
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5	<5	<5	<5	<5	<5	<5	µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	<5	<5	<5	1080	<5	<5	<5	µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5	<5	<5	8	<5	<5	<5	µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	<5	<5	<5	99	<5	<5	<5	µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	<5	<5	<5	1190	<5	<5	<5	µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	1	<1	<1	<1	19	<1	<1	µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1	<1	2	<1	<1	<1	<1	µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5	<5	<5	8	<5	<5	<5	µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	<5	<5	<5	15	<5	6	<5	µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	<5	<5	<5	340	<5	17	<5	µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	6	<5	<5	76	7	26	<5	µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10	<10	<10	15	<10	12	<10	µg/l	10	A-T-055w
Total Aromatics $(w)_A$	<10	<10	<10	454	26	61	<10	µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	<10	<10	<10	1640	26	61	<10	µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	1	<1	<1	<1	19	<1	<1	µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1	<1	2	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1	<1	<1	<1	<1	<1	<1	µg/l	1	A-T-022w

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/8	23/11247/9	23/11247/10	23/11247/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS311	RBH502 P2	RBH505 P2	RBH305						
Depth to Top	1.00	18.90	13.70	7.00						
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23						
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
pH (w)$_{A}^{\#}$	8.59	12.73	7.75	7.49				pH	0.01	A-T-031w
Dissolved Oxygen$_{A}$	9.4	10	9.4	9.4				mg/l	0.5	A-T-048
COD (settled)$_{A}^{\#}$	551	8	<5	9				mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	30	-	<1	<1				mg/l	1	A-T-048
Sulphate (w)$_{A}^{\#}$	2650	2370	68	63				mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	176	5.7	<2.0	3.6				mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	17	-	120	2				µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<10.0	-	<0.2	<0.2				µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	145	-	91	122				mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	<20	-	<4	<4				µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	52	-	<1	<1				µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	<5	-	<1	<1				µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.5	-	<0.1	<0.1				µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	33	-	<2	3				µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	<5	-	1	1				µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	21	-	11	7				µg/l	2	A-T-025w

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/8	23/11247/9	23/11247/10	23/11247/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS311	RBH502 P2	RBH505 P2	RBH305						
Depth to Top	1.00	18.90	13.70	7.00						
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23						
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
PAH 16MS (w)										
Acenaphthene (w)$_A^{\#}$	0.22	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^{\#}$	<0.02	-	<0.02	<0.02				µg/l	0.01	A-T-019w
Anthracene (w)$_A^{\#}$	0.04	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^{\#}$	0.02	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^{\#}$	<0.01	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^{\#}$	0.01	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^{\#}$	<0.01	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^{\#}$	<0.01	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Chrysene (w)$_A^{\#}$	0.02	-	0.01	<0.01				µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^{\#}$	<0.01	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^{\#}$	0.15	-	0.03	<0.01				µg/l	0.01	A-T-019w
Fluorene (w)$_A^{\#}$	0.12	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^{\#}$	<0.01	-	<0.01	<0.01				µg/l	0.01	A-T-019w
Naphthalene (w)$_A^{\#}$	1.06	-	0.29	<0.01				µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^{\#}$	0.22	-	0.02	<0.01				µg/l	0.01	A-T-019w
Pyrene (w)$_A^{\#}$	0.13	-	0.03	<0.01				µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^{\#}$	1.99	-	0.38	<0.02				µg/l	0.01	A-T-019w
Phenols (speciated HPLC) (w)										
Phenol (w)$_A$	<0.10	-	-	-				mg/l	0.01	A-T-050w
Cresols (w)$_A$	<0.10	-	-	-				mg/l	0.01	A-T-050w
Xylenols (w)$_A$	<0.10	-	-	-				mg/l	0.01	A-T-050w
Resorcinol (w) $_A$	<0.10	-	-	-				mg/l	0.01	A-T-050w
Phenols - Total by HPLC (w)$_A$	<0.10	-	-	-				mg/l	0.01	A-T-050w

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/8	23/11247/9	23/11247/10	23/11247/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS311	RBH502 P2	RBH505 P2	RBH305						
Depth to Top	1.00	18.90	13.70	7.00						
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23						
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
SVOC (excluding PAH-16) (w)										
1,2,4-Trichlorobenzene$_A$	<1	-	-	-				µg/l	1	A-T-052w
1,2-Dichlorobenzene$_A$	<1	-	-	-				µg/l	1	A-T-052w
1,3-Dichlorobenzene$_A$	<1	-	-	-				µg/l	1	A-T-052w
1,4-Dichlorobenzene$_A$	<1	-	-	-				µg/l	1	A-T-052w
2,4,5-Trichlorophenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
2,4,6-Trichlorophenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
2,4-Dichlorophenol$_A$	2	-	-	-				µg/l	1	A-T-052w
2,4-Dimethylphenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
2,4-Dinitrotoluene$_A$	1	-	-	-				µg/l	1	A-T-052w
2,6-Dinitrotoluene$_A$	<1	-	-	-				µg/l	1	A-T-052w
2-Chloronaphthalene$_A$	<1	-	-	-				µg/l	1	A-T-052w
2-Chlorophenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
2-Methylnaphthalene$_A$	<1	-	-	-				µg/l	1	A-T-052w
2-Methylphenol$_A$	1	-	-	-				µg/l	1	A-T-052w
2-Nitrophenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
4-Bromophenyl phenyl ether$_A$	<1	-	-	-				µg/l	1	A-T-052w
4-Chloro-3-methylphenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
Bis(2-chloroisopropyl)ether$_A$	<1	-	-	-				µg/l	1	A-T-052w
3+4-Methylphenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
4-Nitrophenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
Bis(2-chloroethyl)ether$_A$	<1	-	-	-				µg/l	1	A-T-052w
Bis(2-chloroethoxy)methane$_A$	<1	-	-	-				µg/l	1	A-T-052w
Bis(2-ethylhexyl)phthalate$_A$	<10	-	-	-				µg/l	10	A-T-052w
Butylbenzyl phthalate$_A$	<1	-	-	-				µg/l	1	A-T-052w
Carbazole$_A$	<1	-	-	-				µg/l	1	A-T-052w
Dibenzofuran$_A$	<1	-	-	-				µg/l	1	A-T-052w
n-Dibutylphthalate$_A$	<1	-	-	-				µg/l	1	A-T-052w
n-Dioctylphthalate$_A$	<10	-	-	-				µg/l	10	A-T-052w
n-Nitroso-n-dipropylamine$_A$	<1	-	-	-				µg/l	1	A-T-052w
Diethyl phthalate$_A$	<1	-	-	-				µg/l	1	A-T-052w
Dimethyl phthalate$_A$	<1	-	-	-				µg/l	1	A-T-052w
Hexachlorobutadiene$_A$	<1	-	-	-				µg/l	1	A-T-052w

Envirolab Job Number: 23/11247 **Client Project Name: Plots N702-04**

Client Project Ref: 4328

Lab Sample ID	23/11247/8	23/11247/9	23/11247/10	23/11247/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS311	RBH502 P2	RBH505 P2	RBH305						
Depth to Top	1.00	18.90	13.70	7.00						
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23						
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
Hexachlorobenzene SVOC$_A$	<1	-	-	-				µg/l	1	A-T-052w
Pentachlorophenol SVOC$_A$	<1	-	-	-				µg/l	1	A-T-052w
Phenol$_A$	<1	-	-	-				µg/l	1	A-T-052w
Hexachloroethane$_A$	<1	-	-	-				µg/l	1	A-T-052w
Nitrobenzene$_A$	<1	-	-	-				µg/l	1	A-T-052w
Isophorone$_A$	<1	-	-	-				µg/l	1	A-T-052w
Perylene$_A$	<1	-	-	-				µg/l	1	A-T-052w

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/8	23/11247/9	23/11247/10	23/11247/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS311	RBH502 P2	RBH505 P2	RBH305						
Depth to Top	1.00	18.90	13.70	7.00						
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23						
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
VOC (w)										
Dichlorodifluoromethane$_{A}$	<1	-	<1	<1				µg/l	1	A-T-006w
Chloromethane$_{A}$	<10	-	<10	<10				µg/l	10	A-T-006w
Vinyl Chloride$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Bromomethane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Chloroethane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Trichlorofluoromethane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Dichloromethane$_{A}$	<5	-	<5	<5				µg/l	5	A-T-006w
Carbon Disulphide$_{A}^{\#}$	1	-	<1	<1				µg/l	1	A-T-006w
1,1-Dichloroethene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,1-Dichloroethane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Bromochloromethane$_{A}^{\#}$	<5	-	<5	<5				µg/l	5	A-T-006w
Chloroform$_{A}^{\#}$	<1	-	1	<1				µg/l	1	A-T-006w
2,2-Dichloropropane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,2-Dichloroethane$_{A}^{\#}$	<2	-	<2	<2				µg/l	2	A-T-006w
1,1,1-Trichloroethane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,1-Dichloropropene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Benzene$_{A}^{\#}$	1	-	137	<1				µg/l	1	A-T-006w
Carbon Tetrachloride$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Dibromomethane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,2-Dichloropropane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Bromodichloromethane$_{A}^{\#}$	<10	-	<10	<10				µg/l	10	A-T-006w
Trichloroethene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,1,2-Trichloroethane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Toluene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,3-Dichloropropane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Dibromochloromethane$_{A}^{\#}$	<3	-	<3	<3				µg/l	3	A-T-006w
1,2-Dibromoethane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Tetrachloroethene$_{A}$	<1	-	<1	<1				µg/l	1	A-T-006w

Envirolab Job Number: 23/11247 **Client Project Name: Plots N702-04**

Client Project Ref: 4328

Lab Sample ID	23/11247/8	23/11247/9	23/11247/10	23/11247/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS311	RBH502 P2	RBH505 P2	RBH305						
Depth to Top	1.00	18.90	13.70	7.00						
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23						
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
1,1,1,2-Tetrachloroethane$_{A}$	<1	-	<1	<1				µg/l	1	A-T-006w
Chlorobenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Ethylbenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
m & p Xylene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Bromoform$_{A}^{\#}$	<1	-	<1	<1				µg/l	3	A-T-006w
Styrene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_{A}$	<1	-	<1	<1				µg/l	1	A-T-006w
o-Xylene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,2,3-Trichloropropane$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Isopropylbenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
Bromobenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
2-Chlorotoluene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
n-propylbenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
4-Chlorotoluene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
4-Isopropyltoluene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,2-Dichlorobenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,4-Dichlorobenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
sec-Butylbenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
tert-Butylbenzene$_{A}^{\#}$	<2	-	<2	<2				µg/l	2	A-T-006w
1,3-Dichlorobenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
n-butylbenzene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_{A}^{\#}$	<2	-	<2	<2				µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_{A}^{\#}$	<3	-	<3	<3				µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_{A}^{\#}$	<3	-	<3	<3				µg/l	3	A-T-006w
Hexachlorobutadiene$_{A}^{\#}$	<1	-	<1	<1				µg/l	1	A-T-006w

Envirolab Job Number: 23/11247

Client Project Name: Plots N702-04

Client Project Ref: 4328

Lab Sample ID	23/11247/8	23/11247/9	23/11247/10	23/11247/11				Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	WS311	RBH502 P2	RBH505 P2	RBH305						
Depth to Top	1.00	18.90	13.70	7.00						
Depth To Bottom										
Date Sampled	13-Nov-23	13-Nov-23	13-Nov-23	13-Nov-23						
Sample Type	WATER - GW	WATER - GW	WATER - GW	WATER - GW						
Sample Matrix Code	N/A	N/A	N/A	N/A						
TPH CWG (w) with Clean Up										
Ali >C5-C6 (w)$_A^{\#}$	<1	-	<1	<1				µg/l	1	A-T-022w
Ali >C6-C8 (w)$_A^{\#}$	<1	-	2	<1				µg/l	1	A-T-022w
Ali >C8-C10 (w)$_A^{\#}$	7	-	<5	<5				µg/l	5	A-T-055w
Ali >C10-C12 (w)$_A^{\#}$	<5	-	<5	<5				µg/l	5	A-T-055w
Ali >C12-C16 (w)$_A^{\#}$	<5	-	<5	<5				µg/l	5	A-T-055w
Ali >C16-C21 (w)$_A^{\#}$	<5	-	<5	<5				µg/l	5	A-T-055w
Ali >C21-C35 (w)$_A^{\#}$	<5	-	<5	<5				µg/l	5	A-T-055w
Total Aliphatics (w)$_A^{\#}$	7	-	<5	<5				µg/l	5	Calc-As Recd
Aro >C5-C7 (w)$_A^{\#}$	1	-	126	<1				µg/l	1	A-T-022w
Aro >C7-C8 (w)$_A^{\#}$	<1	-	<1	<1				µg/l	1	A-T-022w
Aro >C8-C10 (w)$_A$	15	-	<5	<5				µg/l	5	A-T-055w
Aro >C10-C12 (w)$_A^{\#}$	41	-	<5	<5				µg/l	5	A-T-055w
Aro >C12-C16 (w)$_A^{\#}$	60	-	<5	<5				µg/l	5	A-T-055w
Aro >C16-C21 (w)$_A^{\#}$	30	-	<5	<5				µg/l	5	A-T-055w
Aro >C21-C35 (w)$_A$	14	-	<10	<10				µg/l	10	A-T-055w
Total Aromatics (w)$_A$	161	-	126	<10				µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) (w)$_A$	168	-	128	<10				µg/l	10	Calc-As Recd
BTEX - Benzene (w)$_A^{\#}$	1	-	126	<1				µg/l	1	A-T-022w
BTEX - Toluene (w)$_A^{\#}$	<1	-	<1	<1				µg/l	1	A-T-022w
BTEX - Ethyl Benzene (w)$_A^{\#}$	<1	-	<1	<1				µg/l	1	A-T-022w
BTEX - m & p Xylene (w)$_A^{\#}$	<1	-	<1	<1				µg/l	1	A-T-022w
BTEX - o Xylene (w)$_A^{\#}$	<1	-	<1	<1				µg/l	1	A-T-022w
MTBE (w)$_A^{\#}$	<1	-	<1	<1				µg/l	1	A-T-022w

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Plots N702-04

Clients Project No: 4328

Project No: 23/11247

Date Received: 14/11/2023 (am)

Cool Box Temperatures (°C): 13.9 - 14.6

Lab Sample ID	23/11247/8	23/11247/9
Client Sample No		
Client Sample ID/Depth	WS311 1.00m	RBH502 P2 18.90m
Date Sampled	13/11/23	13/11/23
Deviation Code		
A10 (BOD not full)		✓
F	✓	

Key
A10 (BOD not full) *Headspace included in BOD container*
F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	23/11247/8
Client Sample No	
Client Sample ID/Depth	WS311 1.00m
Date Sampled	13/11/23
BOD (settled, 5 day)	✓

Note: If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3 (for water samples 5 ± 3°C), ISO 18400-105:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/11247/1	23/11247/2	23/11247/3	23/11247/4	23/11247/5	23/11247/6	23/11247/7	23/11247/8	23/11247/9	23/11247/10	23/11247/11
Client Sample No											
Client Sample ID/Depth	RBH203 14.90m	RBH302 10.65m	RBH501 13.70m	RBH502 P1 15.80m	RBH503 8.70m	RBH504 10.70m	RBH505 P1 11.20m	WS311 1.00m	RBH502 P2 18.90m	RBH505 P2 13.70m	RBH305 7.00m
Date Sampled	13/11/23	13/11/23	13/11/23	13/11/23	13/11/23	13/11/23	13/11/23	13/11/23	13/11/23	13/11/23	13/11/23
A-T-006w	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023		20/11/2023	20/11/2023
A-T-019w	17/11/2023	17/11/2023	17/11/2023	17/11/2023	17/11/2023	17/11/2023	17/11/2023	17/11/2023		17/11/2023	17/11/2023
A-T-022w	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023		20/11/2023	20/11/2023
A-T-025w	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	17/11/2023		16/11/2023	16/11/2023
A-T-026w	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023
A-T-031w	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023
A-T-032w	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	16/11/2023	22/11/2023	16/11/2023	16/11/2023	17/11/2023
A-T-034w	23/11/2023	23/11/2023	23/11/2023	23/11/2023	23/11/2023	22/11/2023	23/11/2023	23/11/2023	23/11/2023	23/11/2023	22/11/2023
A-T-048	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023
A-T-049w	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023	22/11/2023		22/11/2023	22/11/2023
A-T-050w								20/11/2023			
A-T-052w								21/11/2023			
A-T-055w	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023		20/11/2023	20/11/2023
Calc-As Recd	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023	20/11/2023		20/11/2023	20/11/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

envirolab
Units 7 & 8 Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

FINAL ANALYTICAL TEST REPORT

Envirolab Job Number: 23/11487
Issue Number: 1 **Date:** 04 December, 2023

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager: Reece McGuinness
Project Name: Dantzic Street
Project Ref: 4328
Order No: 1920
Date Samples Received: 20/11/23
Date Instructions Received: 21/11/23
Date Analysis Completed: 02/12/23

Approved by:



Richard Wong
Client Manager

UKAS TESTING
1247

Envirolab Job Number: 23/11487

Client Project Name: Dantzic Street

Client Project Ref: 4328

Lab Sample ID	23/11487/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH502 P2									
Depth to Top	18.90									
Depth To Bottom										
Date Sampled	20-Nov-23									
Sample Type	WATER - GW									
Sample Matrix Code	N/A									
pH (w)$_{A}^{\#}$	7.66							pH	0.01	A-T-031w
Dissolved Oxygen$_{A}$	9.5							mg/l	0.5	A-T-048
COD (settled)$_{A}^{\#}$	24							mg/l	5	A-T-034w
BOD (settled, 5 day)$_{A}$	7							mg/l	1	A-T-048
Sulphate (w)$_{A}^{\#}$	170							mg/l	1	A-T-026w
DOC - Dissolved Organic Carbon (w)$_{A}^{\#}$	5.7							mg/l	2	A-T-032w
Arsenic (dissolved)$_{A}^{\#}$	9							µg/l	1	A-T-025w
Cadmium (dissolved)$_{A}^{\#}$	<0.2							µg/l	0.2	A-T-025w
Calcium (dissolved)$_{A}^{\#}$	121							mg/l	1	A-T-049w
Copper (dissolved)$_{A}$	<4							µg/l	4	A-T-025w
Chromium (dissolved)$_{A}^{\#}$	6							µg/l	1	A-T-025w
Lead (dissolved)$_{A}^{\#}$	6							µg/l	1	A-T-025w
Mercury (dissolved)$_{A}^{\#}$	<0.1							µg/l	0.1	A-T-025w
Nickel (dissolved)$_{A}^{\#}$	6							µg/l	2	A-T-025w
Selenium (dissolved)$_{A}^{\#}$	3							µg/l	1	A-T-025w
Zinc (dissolved)$_{A}^{\#}$	19							µg/l	2	A-T-025w

Envirolab Job Number: 23/11487

Client Project Name: Dantzic Street

Client Project Ref: 4328

Lab Sample ID	23/11487/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH502 P2									
Depth to Top	18.90									
Depth To Bottom										
Date Sampled	20-Nov-23									
Sample Type	WATER - GW									
Sample Matrix Code	N/A									
PAH 16MS (w)										
Acenaphthene (w)$_A^\#$	0.01							µg/l	0.01	A-T-019w
Acenaphthylene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Anthracene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Benzo(a)anthracene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Benzo(a)pyrene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Benzo(b)fluoranthene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Benzo(ghi)perylene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Benzo(k)fluoranthene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Chrysene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Dibenzo(ah)anthracene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Fluoranthene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Fluorene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Indeno(123-cd)pyrene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Naphthalene (w)$_A^\#$	0.12							µg/l	0.01	A-T-019w
Phenanthrene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Pyrene (w)$_A^\#$	<0.01							µg/l	0.01	A-T-019w
Total PAH 16MS (w)$_A^\#$	0.13							µg/l	0.01	A-T-019w

Envirolab Job Number: 23/11487

Client Project Name: Dantzic Street

Client Project Ref: 4328

Lab Sample ID	23/11487/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH502 P2									
Depth to Top	18.90									
Depth To Bottom										
Date Sampled	20-Nov-23									
Sample Type	WATER - GW									
Sample Matrix Code	N/A									
VOC (w)										
Dichlorodifluoromethane$_A$	<1							µg/l	1	A-T-006w
Chloromethane$_A$	<10							µg/l	10	A-T-006w
Vinyl Chloride$_A^{\#}$	<1							µg/l	1	A-T-006w
Bromomethane$_A^{\#}$	<1							µg/l	1	A-T-006w
Chloroethane$_A^{\#}$	<1							µg/l	1	A-T-006w
Trichlorofluoromethane$_A^{\#}$	<1							µg/l	1	A-T-006w
trans 1,2-Dichloroethene$_A^{\#}$	40							µg/l	1	A-T-006w
Dichloromethane$_A$	<5							µg/l	5	A-T-006w
Carbon Disulphide$_A^{\#}$	<1							µg/l	1	A-T-006w
1,1-Dichloroethene$_A^{\#}$	<1							µg/l	1	A-T-006w
1,1-Dichloroethane$_A^{\#}$	<1							µg/l	1	A-T-006w
cis 1,2-Dichloroethene$_A^{\#}$	40							µg/l	1	A-T-006w
Bromochloromethane$_A^{\#}$	<5							µg/l	5	A-T-006w
Chloroform$_A^{\#}$	4							µg/l	1	A-T-006w
2,2-Dichloropropane$_A^{\#}$	<1							µg/l	1	A-T-006w
1,2-Dichloroethane$_A^{\#}$	<2							µg/l	2	A-T-006w
1,1,1-Trichloroethane$_A^{\#}$	<1							µg/l	1	A-T-006w
1,1-Dichloropropene$_A^{\#}$	<1							µg/l	1	A-T-006w
Benzene$_A^{\#}$	385							µg/l	1	A-T-006w
Carbon Tetrachloride$_A^{\#}$	<1							µg/l	1	A-T-006w
Dibromomethane$_A^{\#}$	<1							µg/l	1	A-T-006w
1,2-Dichloropropane$_A^{\#}$	<1							µg/l	1	A-T-006w
Bromodichloromethane$_A^{\#}$	<10							µg/l	10	A-T-006w
Trichloroethene$_A^{\#}$	4							µg/l	1	A-T-006w
cis 1,3-Dichloropropene$_A^{\#}$	<1							µg/l	1	A-T-006w
trans 1,3-Dichloropropene$_A^{\#}$	<1							µg/l	1	A-T-006w
1,1,2-Trichloroethane$_A^{\#}$	<1							µg/l	1	A-T-006w
Toluene$_A^{\#}$	<1							µg/l	1	A-T-006w
1,3-Dichloropropane$_A^{\#}$	<1							µg/l	1	A-T-006w
Dibromochloromethane$_A^{\#}$	<3							µg/l	3	A-T-006w
1,2-Dibromoethane$_A^{\#}$	<1							µg/l	1	A-T-006w
Tetrachloroethene$_A$	<1							µg/l	1	A-T-006w

Envirolab Job Number: 23/11487

Client Project Name: Dantzic Street

Client Project Ref: 4328

Lab Sample ID	23/11487/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH502 P2									
Depth to Top	18.90									
Depth To Bottom										
Date Sampled	20-Nov-23									
Sample Type	WATER - GW									
Sample Matrix Code	N/A									
1,1,1,2-Tetrachloroethane$_A$	<1							µg/l	1	A-T-006w
Chlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
Ethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
m & p Xylene$_A^\#$	<1							µg/l	1	A-T-006w
Bromoform$_A^\#$	<1							µg/l	3	A-T-006w
Styrene$_A^\#$	<1							µg/l	1	A-T-006w
1,1,2,2-Tetrachloroethane$_A$	<1							µg/l	1	A-T-006w
o-Xylene$_A^\#$	<1							µg/l	1	A-T-006w
1,2,3-Trichloropropane$_A^\#$	<1							µg/l	1	A-T-006w
Isopropylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
Bromobenzene$_A^\#$	<1							µg/l	1	A-T-006w
2-Chlorotoluene$_A^\#$	<1							µg/l	1	A-T-006w
n-propylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
4-Chlorotoluene$_A^\#$	<1							µg/l	1	A-T-006w
1,2,4-Trimethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
4-Isopropyltoluene$_A^\#$	<1							µg/l	1	A-T-006w
1,3,5-Trimethylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,4-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
sec-Butylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
tert-Butylbenzene$_A^\#$	<2							µg/l	2	A-T-006w
1,3-Dichlorobenzene$_A^\#$	<1							µg/l	1	A-T-006w
n-butylbenzene$_A^\#$	<1							µg/l	1	A-T-006w
1,2-Dibromo-3-chloropropane$_A^\#$	<2							µg/l	2	A-T-006w
1,2,4-Trichlorobenzene$_A^\#$	<3							µg/l	3	A-T-006w
1,2,3-Trichlorobenzene$_A^\#$	<3							µg/l	3	A-T-006w
Hexachlorobutadiene$_A^\#$	<1							µg/l	1	A-T-006w

Envirolab Job Number: 23/11487

Client Project Name: Dantzic Street

Client Project Ref: 4328

Lab Sample ID	23/11487/1							Units	Limit of Detection	Method ref
Client Sample No										
Client Sample ID	BH502 P2									
Depth to Top	18.90									
Depth To Bottom										
Date Sampled	20-Nov-23									
Sample Type	WATER - GW									
Sample Matrix Code	N/A									
TPH CWG (w) with Clean Up										
Ali >C5-C6 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C6-C8 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Ali >C8-C10 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C10-C12 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C12-C16 $(w)_A^{\#}$	559							µg/l	5	A-T-055w
Ali >C16-C21 $(w)_A^{\#}$	<5							µg/l	5	A-T-055w
Ali >C21-C35 $(w)_A^{\#}$	48							µg/l	5	A-T-055w
Total Aliphatics $(w)_A^{\#}$	607							µg/l	5	Calc-As Recd
Aro >C5-C7 $(w)_A^{\#}$	300							µg/l	1	A-T-022w
Aro >C7-C8 $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
Aro >C8-C10 $(w)_A$	<5							µg/l	5	A-T-055w
Aro >C10-C12 $(w)_A^{\#}$	13							µg/l	5	A-T-055w
Aro >C12-C16 $(w)_A^{\#}$	130							µg/l	5	A-T-055w
Aro >C16-C21 $(w)_A^{\#}$	50							µg/l	5	A-T-055w
Aro >C21-C35 $(w)_A$	<10							µg/l	10	A-T-055w
Total Aromatics $(w)_A$	493							µg/l	10	Calc-As Recd
TPH (Ali & Aro >C5-C35) $(w)_A$	1100							µg/l	10	Calc-As Recd
BTEX - Benzene $(w)_A^{\#}$	300							µg/l	1	A-T-022w
BTEX - Toluene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - Ethyl Benzene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - m & p Xylene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
BTEX - o Xylene $(w)_A^{\#}$	<1							µg/l	1	A-T-022w
MTBE $(w)_A^{\#}$	<1							µg/l	1	A-T-022w

Report Notes

General
This report shall not be reproduced, except in full, without written approval from Envirolab.
The results reported herein relate only to the material supplied to the laboratory.
The residue of any samples contained within this report, and any received within the same delivery, will be disposed of **six weeks** after the initial scheduling. For samples tested for Asbestos we will retain a portion of the dried sample for a minimum of **six months** after the initial Asbestos testing is completed.
Analytical results reflect the quality of the sample at the time of analysis only.
Opinions and Interpretations expressed are outside our scope of accreditation.
The client Sample No, Client Sample ID, Depth to top, Depth to Bottom and Date Sampled are all provided by the client.
A deviating sample report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid.

Key

Superscript "#"	Accredited to ISO 17025
Superscript "M"	Accredited to MCertS
Superscript "U"	Individual result not accredited
None of the above symbols	Analysis unaccredited
Subscript "A"	Analysis performed on as-received Sample
Subscript "D"	Analysis performed on the dried sample, crushed to pass 2mm sieve.
Subscript "^"	Analysis has dependant options against results. Details appear in the comments of your Sample receipt
IS	Insufficient Sample for analysis
US	Unsuitable Sample for analysis
NDP	No Determination Possible
NAD	No Asbestos Detected
N/A	Not applicable

Asbestos
Asbestos in soil analysis is performed on a dried aliquot of the submitted sample and cannot guarantee to identify asbestos if only present in small numbers as discrete fibres/fragments in the original sample.
Stones etc. are not removed from the sample prior to analysis
Quantification of asbestos is a 3 stage process including visual identification, hand picking and weighing, and fibre counting by sedimentation/phase contrast optical microscopy if required. If asbestos is identified as being present but is not in a form that is suitable for analysis by hand picking and weighing (normally if the asbestos is present as free fibres) quantification by sedimentation is performed. Where ACMs are found a percentage asbestos is assigned to each with reference to 'HSG264, Asbestos: The survey guide' and the calculated asbestos content is expressed as a percentage of the dried soil sample aliquot used.

Assigned Matrix Codes

1	SAND	6	CLAY/LOAM	A	Contains Stones
2	LOAM	7	OTHER	B	Contains Construction Rubble
3	CLAY	8	Asbestos Bulk (Only Asbestos ID accredited)	C	Contains visible hydrocarbons
4	LOAM/SAND	9	Incinerator Ash (some Metals accredited)	D	Contains glass / metal
5	SAND/CLAY			E	Contains roots / twigs
Note: 7,8,9 matrices are not covered by our ISO 17025 or MCertS accreditation, unless stated above.					

Soil Chemical Analysis:
All results are reported as dry weight (<40°C).
For samples with Matrix Codes 1 - 6 natural stones, brick and concrete fragments >10mm and any extraneous material (visible glass, metal or twigs) are removed and excluded from the sample prior to analysis and reported results corrected to a whole sample basis. This is reported as '% stones >10mm'.
For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis and this supersedes any "A" subscripts
All analysis is performed on the sample as received for soil samples which are positive for asbestos or the client has informed asbestos may be present and/or if they are from outside the European Union and this supersedes any "D" subscripts.

TPH by method A-T-007:
For waters, free and visible oils are excluded from the sample used for analysis, so the reported result represents the dissolved phase only.
Results "with Clean up" indicates samples cleaned up with Silica during extraction.

EPH CWG (method A-T-055) from TPH CWG:
EPH CWG results have humics mathematically subtracted through instrument calculation.
Where these humic substances have been identified in any IDs from "TPH CWG with clean up" please note that the concentration is **NOT** included in the quantified results but present in the ID for information.

Electrical Conductivity of water by method A-T-037:
Results greater than 12900µS/cm @ 25°C / 11550µS/cm @ 20°C fall outside the accreditation range and as such are unaccredited.

Please contact your client manager if you require any further information.

Envirolab Deviating Samples Report

Units 7&8 Sandpits Business Park, Mottram Road, Hyde, SK14 3AR
Tel. 0161 368 4921 email. ask@envlab.co.uk

Client: ROCP LIMITED, Commercial Wharf 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Project: Dantzic Street

Clients Project No: 4328

Project No: 23/11487

Date Received: 21/11/2023 (am)

Cool Box Temperatures (°C): 12.6

Lab Sample ID	23/11487/1
Client Sample No	
Client Sample ID/Depth	BH502 P2 18.90m
Date Sampled	20/11/23
Deviation Code	
F	✓

Key

F *Maximum holding time exceeded between sampling date and analysis for analytes listed below*

HOLDING TIME EXCEEDANCES

Lab Sample ID	23/11487/1
Client Sample No	
Client Sample ID/Depth	BH502 P2 18.90m
Date Sampled	20/11/23
BOD (settled, 5 day)	✓

If, at any point before reaching the laboratory, the temperature of the samples has breached those set in published standards, e.g. BS-EN 5667-3, ISO 18400-102:2017, then the concentration of any affected analytes may differ from that at the time of sampling.

Envirolab Analysis Dates

Lab Sample ID	23/11487/1
Client Sample No	
Client Sample ID/Depth	BH502 P2 18.90m
Date Sampled	20/11/23
A-T-006w	28/11/2023
A-T-019w	28/11/2023
A-T-022w	27/11/2023
A-T-025w	02/12/2023
A-T-026w	29/11/2023
A-T-031w	23/11/2023
A-T-032w	29/11/2023
A-T-034w	30/11/2023
A-T-048	28/11/2023
A-T-049w	29/11/2023
A-T-055w	27/11/2023
Calc-As Recd	27/11/2023

The above dates are the analysis completion dates, please note that these are not necessarily the date that the analysis was weighed/extracted.

End of Report

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX D – GEOTECHNICAL TESTING RESULTS

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

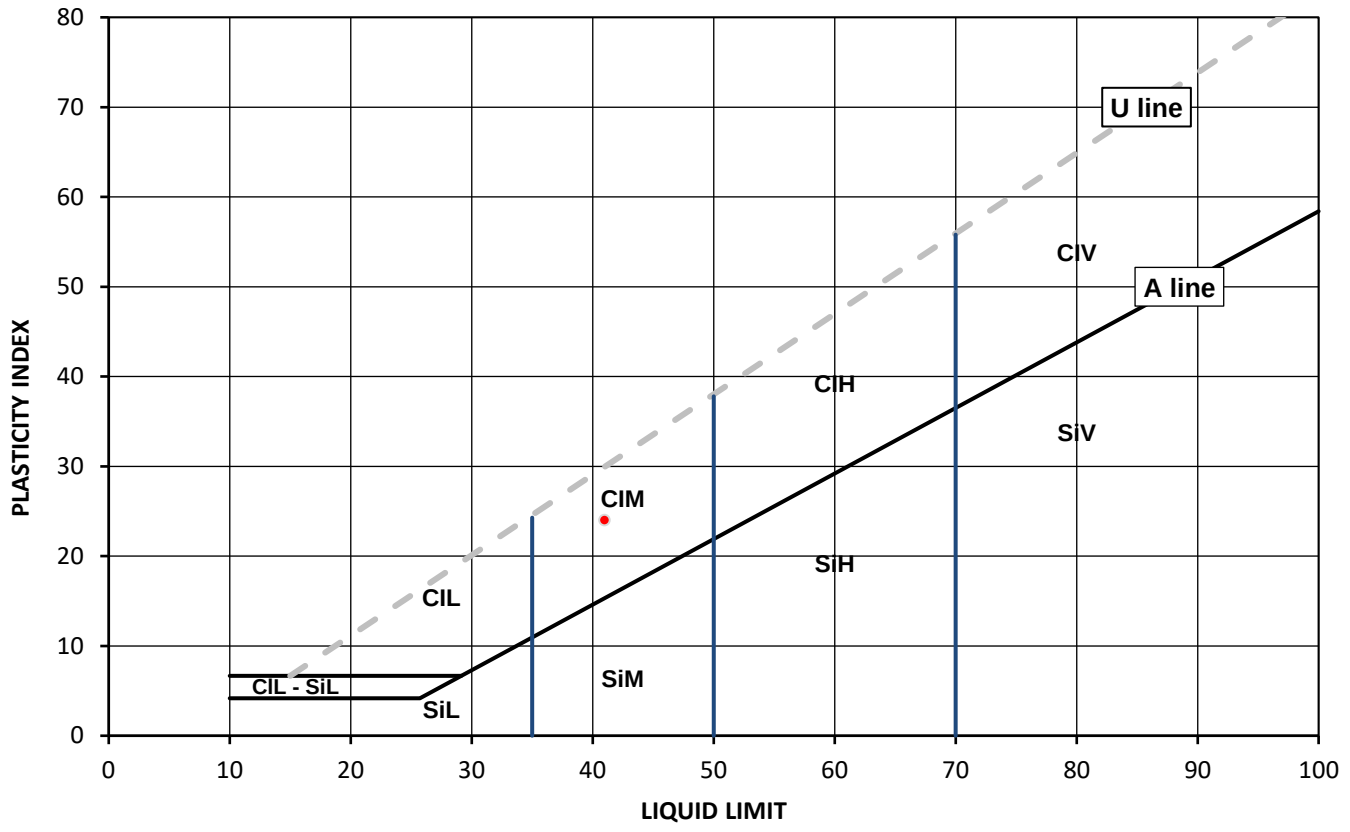
Client:	ROC Consulting Ltd	Client Reference:	4328
Client Address:	Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ	Job Number:	22-79461
		Date Sampled:	Not Given
		Date Received:	19/08/2022
Contact:	Reece McGuinnes	Date Tested:	30/08/2022
Site Address:	Plots NT02-NT04	Sampled By:	Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2397661	Depth Top [m]:	3.00
Hole No.:	WS209	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown slightly gravelly sandy CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
17	41	17	24	98



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 22-79461, issue no 1;

Signed:

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for and on behalf of i2 Analytical Ltd

 Date Reported: 19/09/2022 **GF 232.12**

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

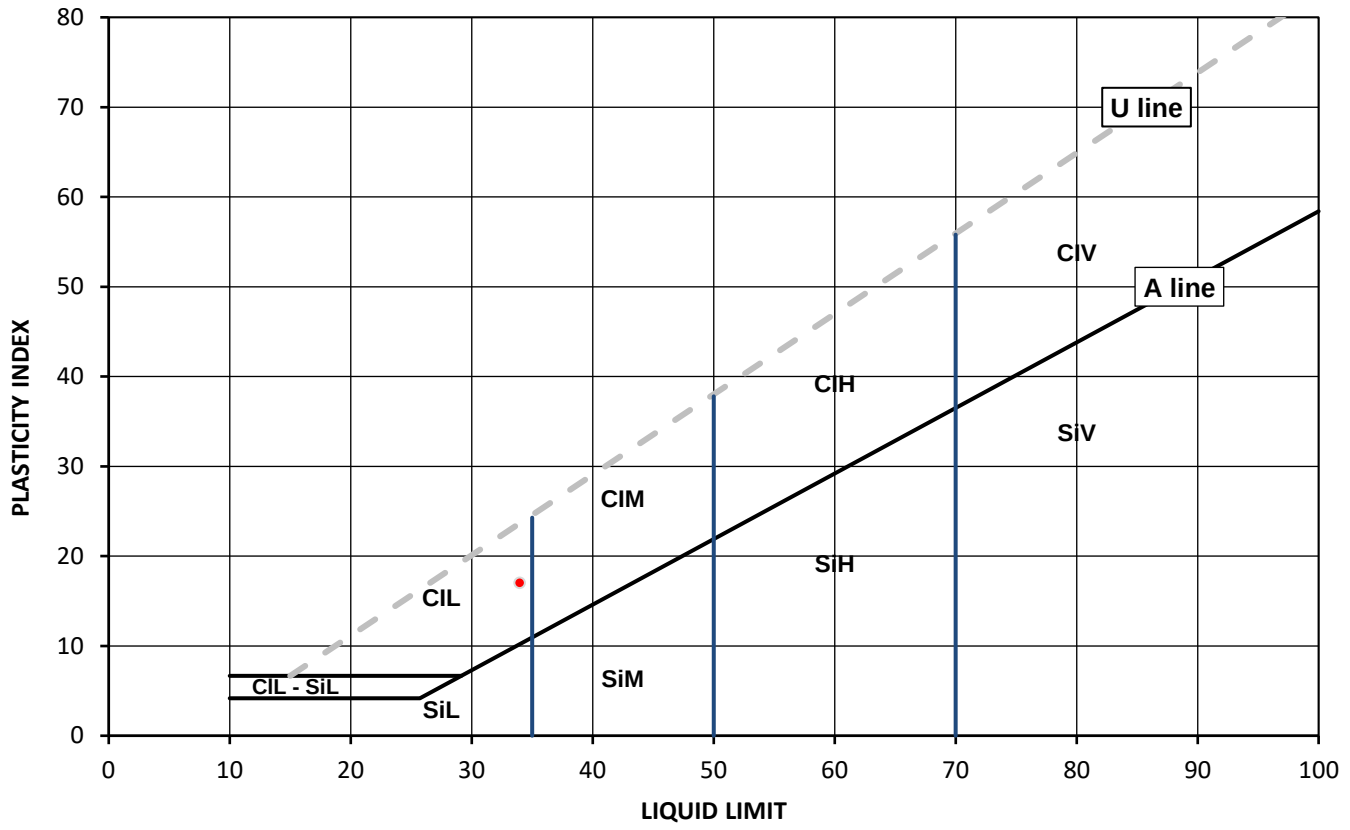
Client:	ROC Consulting Ltd	Client Reference:	4328
Client Address:	Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ	Job Number:	22-79461
		Date Sampled:	Not Given
		Date Received:	19/08/2022
Contact:	Reece McGuinnes	Date Tested:	31/08/2022
Site Address:	Plots NT02-NT04	Sampled By:	Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2397662	Depth Top [m]:	2.50
Hole No.:	WS203	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown very sandy CLAY		
Sample Preparation:	Tested in natural condition		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
15	34	17	17	100



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 22-79461, issue no 1;

Signed:

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for and on behalf of i2 Analytical Ltd

 Date Reported: 19/09/2022 **GF 232.12**

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

UKAS TESTING 4041

Environmental Science

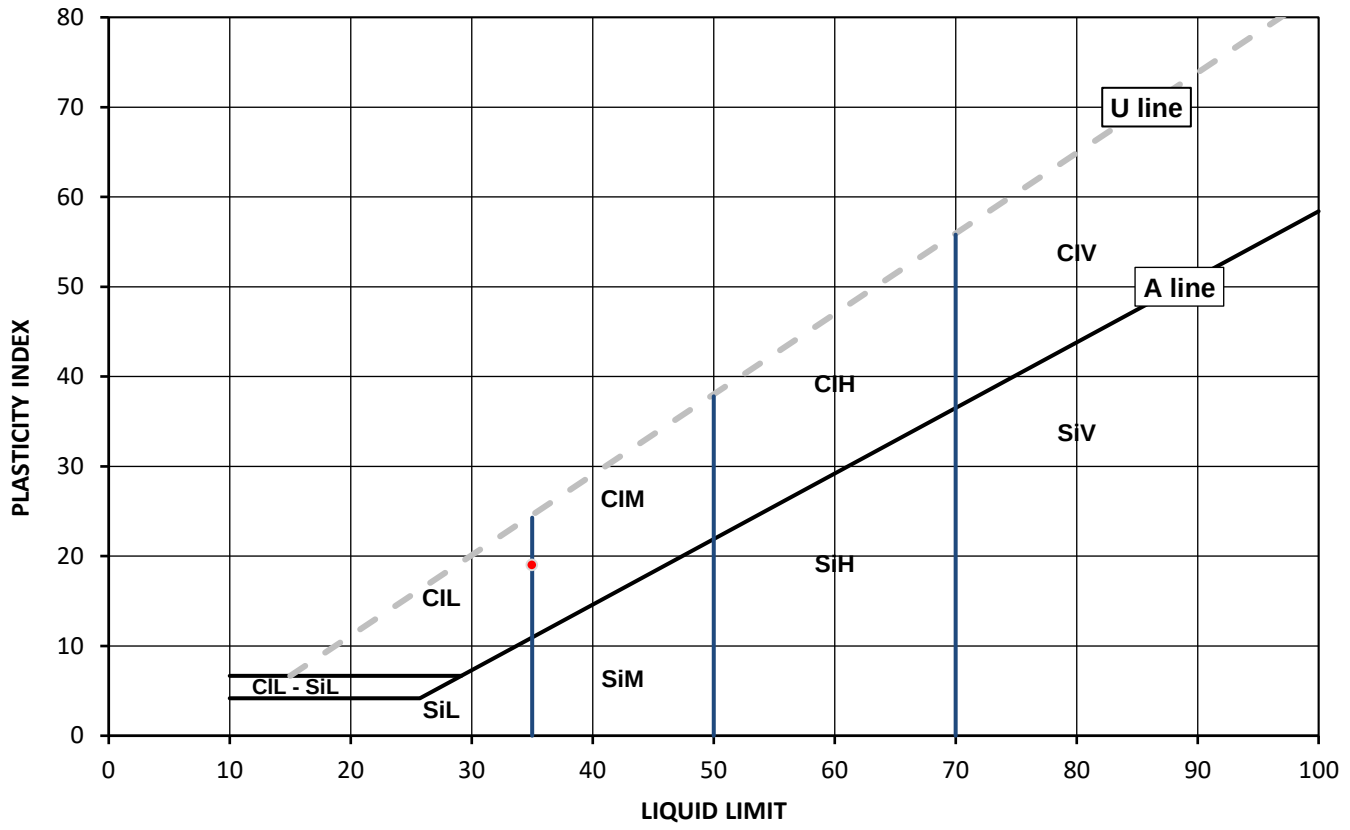
Client:	ROC Consulting Ltd	Client Reference:	4328
Client Address:	Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ	Job Number:	22-79461
		Date Sampled:	Not Given
		Date Received:	19/08/2022
Contact:	Reece McGuinnes	Date Tested:	30/08/2022
Site Address:	Plots NT02-NT04	Sampled By:	Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2397663	Depth Top [m]:	1.20
Hole No.:	TP213	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brownish grey slightly gravelly sandy CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
18	35	16	19	96



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 22-79461, issue no 1;

Signed:

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for and on behalf of i2 Analytical Ltd

 Date Reported: 19/09/2022 **GF 232.12**

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

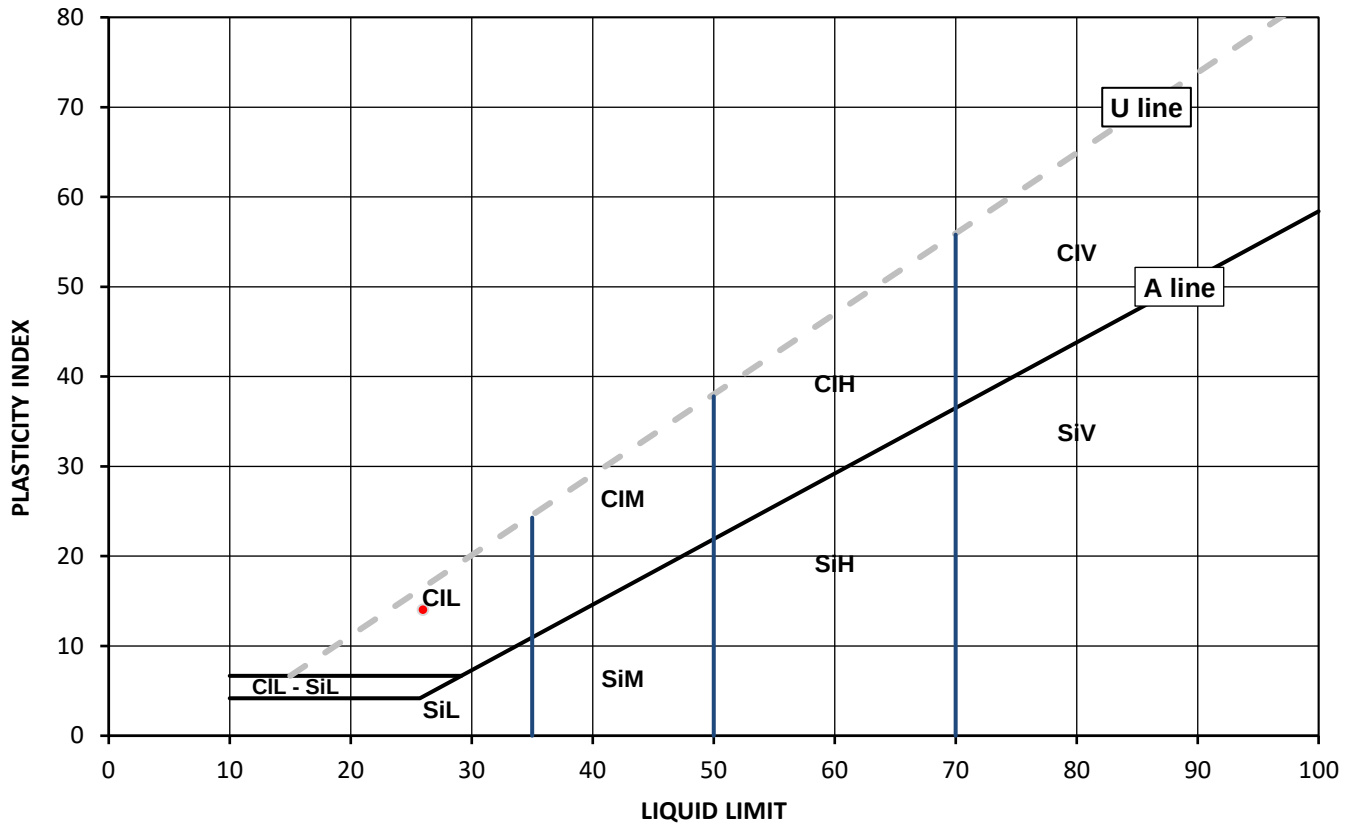
Client:	ROC Consulting Ltd	Client Reference:	4328
Client Address:	Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ	Job Number:	22-79461
		Date Sampled:	Not Given
		Date Received:	19/08/2022
Contact:	Reece McGuinnes	Date Tested:	30/08/2022
Site Address:	Plots NT02-NT04	Sampled By:	Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2397664	Depth Top [m]:	2.00
Hole No.:	TP219	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown slightly gravelly very sandy CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
4.8	26	12	14	97



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 22-79461, issue no 1;

Signed:

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for and on behalf of i2 Analytical Ltd

 Date Reported: 19/09/2022 **GF 232.12**

TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS
Tested in Accordance with:BS 1377-2:1990:Clause 4.4 and 5

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

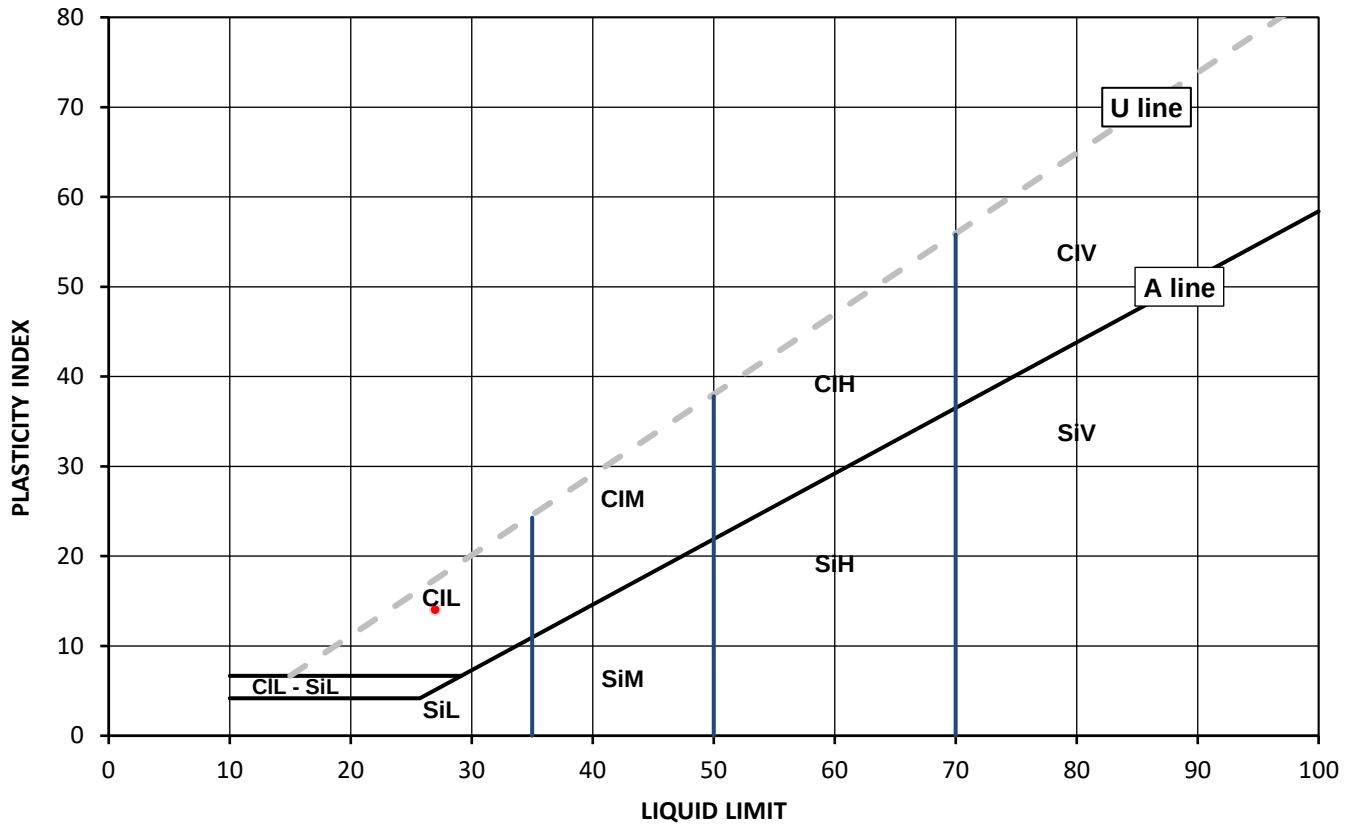
Client:	ROC Consulting Ltd	Client Reference:	4328
Client Address:	Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ	Job Number:	22-79461
		Date Sampled:	Not Given
		Date Received:	19/08/2022
Contact:	Reece McGuinnes	Date Tested:	30/08/2022
Site Address:	Plots NT02-NT04	Sampled By:	Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2397665	Depth Top [m]:	2.50
Hole No.:	TP215	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	Brown slightly gravelly very sandy CLAY		
Sample Preparation:	Tested after >425um removed by hand		

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	% Passing 425µm BS Test Sieve
16	27	13	14	99



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

		Plasticity		Liquid Limit
Cl	Clay	L	Low	below 35
Si	Silt	M	Medium	35 to 50
		H	High	50 to 70
		V	Very high	exceeding 70
		O	Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS 1377-2: 1990: Clause 3.2

Remarks: Replaces Analytical Report Number 22-79461, issue no 1;

Signed:

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for and on behalf of i2 Analytical Ltd

 Date Reported: 19/09/2022 **GF 232.12**

SUMMARY REPORT

SUMMARY OF CLASSIFICATION TEST RESULTS

Tested in Accordance with:

Water Content by BS 1377-2:1990: Clause 3.2; Atterberg by BS 1377-2: 1990: Clause 4.3 (4 Point Test), Clause 4.4 (1 Point Test) and 5; PD by BS 1377-2: 1990: Clause 8.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: ROC Consulting Ltd

Client Address: Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Contact: Reece McGuinnes

Site Address: Plots NT02-NT04

Client Reference: 4328
Job Number: 22-79461
Date Sampled: Not Given
Date Received: 19/08/2022
Date Tested: 30/08 - 31/08/2022
Sampled By: Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Water Content BS 1377-2 [W]	Water Content BS EN ISO 17892-1 [W]	Atterberg				Density			Total Porosity#		
		Reference	Depth Top	Depth Base	Type					% Passing 425um	WL	Wp	Ip	bulk	dry	PD			
			m	m				%	%	%	%	%	%	Mg/m3	Mg/m3	Mg/m3	%		
2397663	TP213	Not Given	1.20	Not Given	D	Brownish grey slightly gravelly sandy CLAY	Atterberg 1 Point	18		96	35	16	19						
2397665	TP215	Not Given	2.50	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 1 Point	16		99	27	13	14						
2397664	TP219	Not Given	2.00	Not Given	D	Brown slightly gravelly very sandy CLAY	Atterberg 1 Point	4.8		97	26	12	14						
2397662	WS203	Not Given	2.50	Not Given	D	Brown very sandy CLAY	Atterberg 1 Point	15		100	34	17	17						
2397661	WS209	Not Given	3.00	Not Given	D	Brown slightly gravelly sandy CLAY	Atterberg 1 Point	17		98	41	17	24						

Note: # Non accredited; NP - Non plastic

Comments: Replaces Analytical Report Number 22-79461, issue no 1;

Signed:

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for and on behalf of i2 Analytical Ltd

Date Reported: 19/09/2022

GF 234.14

SUMMARY REPORT

DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS 1377-2: 1990: Clause 3.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: ROC Consulting Ltd

Client Address: Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Contact: Reece McGuinnes

Site Address: Plots NT02-NT04

Client Reference: 4328
Job Number: 22-79461
Date Sampled: Not Given
Date Received: 19/08/2022
Date Tested: 30/08 - 31/08/2022
Sampled By: Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC	Sample preparation / Oven temperature at the time of testing			
		Reference	Depth Top m	Depth Base m	Type			%				
2397663	TP213	Not Given	1.20	Not Given	D	Brownish grey slightly gravelly sandy CLAY		18	Sample was quartered, oven dried at 106.1 °C			
2397665	TP215	Not Given	2.50	Not Given	D	Brown slightly gravelly very sandy CLAY		16	Sample was quartered, oven dried at 106.1 °C			
2397664	TP219	Not Given	2.00	Not Given	D	Brown slightly gravelly very sandy CLAY		4.8	Sample was quartered, oven dried at 106 °C			
2397662	WS203	Not Given	2.50	Not Given	D	Brown very sandy CLAY		15	Sample was quartered, oven dried at 106 °C			
2397661	WS209	Not Given	3.00	Not Given	D	Brown slightly gravelly sandy CLAY		17	Sample was quartered, oven dried at 106.1 °C			

Comments: Replaces Analytical Report Number 22-79461, issue no 1;

Signed:

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for and on behalf of i2 Analytical Ltd

Date Reported: 19/09/2022

GF 099.16

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: ROC Consulting Ltd

Client Address: Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Contact: Reece McGuinnes

Site Address: Plots NT02-NT04

Client Reference: 4328
Job Number: 22-79461
Date Sampled: Not Given
Date Received: 19/08/2022
Date Tested: 08/09/2022
Sampled By: Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top	Depth Base	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)
			m	m								mm	mm	mm	mm	kN	mm	MPa	MPa
2397628	RBH201	Not Given	12.30	12.41	C	Reddish brown silty CLAY	WC = 16.2%	1	A	U	YES	-	86.4	49.0	39.0	0.3	65.5	0.06	0.07
2397629	RBH201	Not Given	15.90	16.02	C	Reddish brown silty CLAY	WC = 15.3%	1	A	U	YES	-	84.2	43.0	37.0	0.2	63.0	0.04	0.04
2397631	RBH201	Not Given	20.18	20.38	C	Reddish brown SILTSTONE	WC = 7.8%	1	D	U	YES	106.8	86.4	85.0	81.0	2.6	83.7	0.37	0.47
2397632	RBH201	Not Given	23.06	23.23	C	Reddish brown silty CLAY	WC = 20.5%	1	A	U	YES	-	81.3	51.0	42.0	0.2	65.9	0.05	0.05
2397633	RBH201	Not Given	24.23	24.40	C	Reddish brown SILTSTONE	WC = 5.2%	1	D	U	YES	88.4	86.4	85.0	81.0	2.5	83.7	0.35	0.44
2397620	RBH202	Not Given	11.33	11.39	C	Reddish brown silty CLAY	WC = 16.1%	1	A	U	YES	-	84.2	50.0	37.0	0.2	63.0	0.04	0.04
2397621	RBH202	Not Given	12.59	12.64	C	Reddish brown silty CLAY	WC = 13.1%	1	A	U	YES	-	83.7	45.0	39.0	0.2	64.5	0.04	0.04
2397623	RBH202	Not Given	14.45	14.53	C	Light brown SILTSTONE	WC = 1.7%	1	A	U	YES	-	89.0	68.0	52.0	6.9	76.8	1.17	1.42
2397624	RBH202	Not Given	15.32	15.42	C	Light brown SILTSTONE	WC = 7.3%	1	D	U	YES	57.5	86.0	83.0	79.0	0.2	82.4	0.03	0.04
2397625	RBH202	Not Given	17.64	17.71	C	Light brown SILTSTONE	WC = 4.4%	1	I	U	YES	33.7	86.6	64.0	60.0	0.6	81.3	0.08	0.10

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen separation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments: Replaces Analytical Report Number 22-79461, issue no 1; Additional results of PL

Signed:

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for and on behalf of i2 Analytical Ltd

Date Reported: 19/09/2022

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: ROC Consulting Ltd

Client Address: Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Contact: Reece McGuinnes

Site Address: Plots NT02-NT04

Client Reference: 4328
Job Number: 22-79461
Date Sampled: Not Given
Date Received: 19/08/2022
Date Tested: 08/09/2022
Sampled By: Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top m	Depth Base m	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne mm	W mm	Dps mm	Dps' mm	kN	mm	Is MPa	Is(50) MPa
2397626	RBH202	Not Given	20.22	20.35	C	Reddish brown SILTSTONE	WC = 6.6%	1	D	U	YES	118.1	86.1	84.0	81.0	2.4	83.5	0.34	0.43
2397640	RBH203	Not Given	8.69	8.79	C	Reddish brown SILTSTONE	WC = 7.8%	1	D	U	YES	58.0	87.9	82.0	80.0	0.1	83.9	0.01	0.02
2397641	RBH203	Not Given	15.95	16.08	C	Reddish brown silty CLAY	WC = 12.4%	1	A	U	YES	-	80.7	39.0	34.0	0.1	59.1	0.03	0.03
2397642	RBH203	Not Given	16.69	16.84	C	Reddish brown silty CLAY	WC = 18.0%	1	I	U	YES	28.4	52.6	30.0	27.0	2.3	42.5	1.27	1.18
2397643	RBH203	Not Given	17.24	17.48	C	Reddish brown silty CLAY	WC = 12.9%	1	I	U	YES	24.9	51.0	28.0	24.0	1.2	39.5	0.74	0.66
2397658	RBH205	Not Given	9.57	9.64	C	Reddish brown SILTSTONE	WC = 7.5%	1	A	U	YES	-	84.8	66.0	42.0	1.5	67.3	0.33	0.38
2397659	RBH205	Not Given	14.64	14.74	C	Reddish brown SILTSTONE	WC = 5.6%	1	D	U	YES	50.7	85.3	86.0	79.0	2.1	82.1	0.30	0.38
2397660	RBH205	Not Given	15.57	15.77	C	Reddish brown SILTSTONE	WC = 9.6%	1	I	U	YES	31.2	65.4	28.0	23.0	2.5	43.8	1.28	1.20
2397611	RBH206	Not Given	7.65	7.75	C	Light brown SILTSTONE	WC = 3.7%	1	I	U	YES	65.0	90.4	67.0	64.0	1.1	85.8	0.15	0.19
2397612	RBH206	Not Given	8.30	8.42	C	Reddish brown SILTSTONE	WC = 4.4%	1	D	U	YES	62.3	89.9	89.0	84.0	0.4	86.9	0.05	0.07

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen separation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments: Replaces Analytical Report Number 22-79461, issue no 1; Additional results of PL

Signed:

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for and on behalf of i2 Analytical Ltd

Date Reported: 19/09/2022

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: ROC Consulting Ltd

Client Address: Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Contact: Reece McGuinnes

Site Address: Plots NT02-NT04

Client Reference: 4328
Job Number: 22-79461
Date Sampled: Not Given
Date Received: 19/08/2022
Date Tested: 08/09/2022
Sampled By: Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top	Depth Base	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)
			m	m								mm	mm	mm	mm	kN	mm	MPa	MPa
2397614	RBH206	Not Given	14.24	14.29	C	Reddish brown SILTSTONE	WC = 3.5%	1	A	U	YES	-	83.6	46.0	38.0	3.7	63.6	0.90	1.01
2397615	RBH206	Not Given	15.12	15.36	C	Reddish brown SILTSTONE	WC = 4.4%	1	D	U	YES	123.3	89.8	89.0	63.0	3.7	75.2	0.65	0.78
2397617	RBH206	Not Given	16.96	17.04	C	Reddish brown SILTSTONE	WC = 5.3%	1	A	U	YES	-	87.0	80.0	53.0	3.2	76.6	0.54	0.66
2397618	RBH206	Not Given	20.10	20.15	C	Reddish brown SILTSTONE	WC = 5.9%	1	A	U	YES	-	86.9	50.0	36.0	2.4	63.1	0.59	0.66
2397667	RBH206	Not Given	22.50	22.64	C	Reddish brown silty CLAY	WC = 18.7%	1	A	U	YES	-	81.8	42.0	36.0	0.3	61.2	0.07	0.07
2397639	RBH207	Not Given	5.34	5.40	C	Reddish brown SILTSTONE	WC = 4.3%	1	A	U	YES	-	84.5	49.0	45.0	0.4	69.6	0.08	0.10
2397634	RBH207	Not Given	6.50	6.68	C	Reddish brown silty CLAY	WC = 17.4%	1	D	U	YES	52.3	81.2	81.0	73.0	0.1	77.0	0.02	0.02
2397635	RBH207	Not Given	10.74	10.84	C	Reddish brown silty CLAY	WC = 18.8%	1	A	U	YES	-	82.4	49.0	46.0	0.1	69.5	0.02	0.02
2397636	RBH207	Not Given	11.37	11.53	C	Reddish brown silty CLAY	WC = 14.1%	1	I	U	YES	36.0	69.0	42.0	35.0	3.2	55.5	1.02	1.07
2397637	RBH207	Not Given	15.13	15.23	C	Reddish brown silty CLAY	WC = 13.1%	1	A	U	YES	-	80.5	41.0	35.0	0.2	59.9	0.06	0.06

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen separation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments: Replaces Analytical Report Number 22-79461, issue no 1; Additional results of PL

Signed:

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for and on behalf of i2 Analytical Ltd

Date Reported: 19/09/2022

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: ROC Consulting Ltd

Client Address: Commercial Wharf, 6 Commercial Street,
Castlefield, Manchester,
M15 4PZ

Contact: Reece McGuinnes

Site Address: Plots NT02-NT04

Client Reference: 4328
Job Number: 22-79461
Date Sampled: Not Given
Date Received: 19/08/2022
Date Tested: 08/09/2022
Sampled By: Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top	Depth Base	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)
			m	m								mm	mm	mm	mm	kN	mm	MPa	MPa
2397638	RBH207	Not Given	16.59	16.71	C	Reddish brown silty CLAY	WC = 14.2%	1	A	U	YES	-	82.0	47.0	41.0	0.2	65.4	0.04	0.04
2397651	RBH208	Not Given	13.85	13.93	C	Grey SILTSTONE	WC = 6.8%	1	D	U	YES	63.9	85.8	86.0	83.0	0.5	84.4	0.07	0.09
2397652	RBH208	Not Given	15.80	15.93	C	Reddish brown SILTSTONE	WC = 6.8%	1	I	U	YES	87.3	86.2	74.0	67.0	1.8	85.7	0.24	0.30
2397653	RBH208	Not Given	16.95	17.10	C	Reddish brown SILTSTONE	WC = 4.7%	1	D	U	YES	78.5	84.6	84.0	80.0	3.6	82.3	0.53	0.67
2397655	RBH208	Not Given	19.10	19.21	C	Reddish brown SILTSTONE	WC = 6.7%	1	D	U	YES	47.5	84.5	83.0	80.0	1.5	82.2	0.22	0.28
2397656	RBH208	Not Given	20.22	20.32	C	Reddish brown SILTSTONE	WC = 6.3%	1	D	U	YES	57.1	85.5	84.0	81.0	2.9	83.2	0.42	0.53
2397657	RBH208	Not Given	23.19	23.29	C	Reddish brown SILTSTONE	WC = 5.1%	1	D	U	YES	62.4	83.2	83.8	79.0	0.6	81.1	0.08	0.10
2397608	RBH209	Not Given	13.13	13.20	C	Reddish brown silty CLAY	WC = 17.3%	1	A	U	YES	-	80.9	37.0	31.0	0.2	56.5	0.06	0.07
2397607	RBH209	Not Given	13.93	14.07	C	Reddish brown silty CLAY	WC = 17.6%	1	A	U	YES	-	81.6	46.0	39.0	0.5	63.6	0.11	0.12
2397609	RBH209	Not Given	15.43	15.57	C	Reddish brown SILTSTONE	WC = 8.6%	1	I	U	YES	42.3	81.2	45.0	40.0	3.3	64.3	0.79	0.88

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen separation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments: Replaces Analytical Report Number 22-79461, issue no 1; Additional results of PL

Signed:

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for and on behalf of i2 Analytical Ltd

Date Reported: 19/09/2022

SUMMARY REPORT

DETERMINATION OF POINT LOAD STRENGTH

Tested in Accordance with: ISRM: 2007, pages 125-132

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: ROC Consulting Ltd

Client Address: Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Contact: Reece McGuinnes

Site Address: Plots NT02-NT04

Client Reference: 4328
Job Number: 22-79461
Date Sampled: Not Given
Date Received: 19/08/2022
Date Tested: 08/09/2022
Sampled By: Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks # (including water content if measured)	Specimen Reference	Test Type see ISRM		Failure Valid (Y/N)	Dimensions				Force P	Equivalent diameter, De	Point Load Strength Index	
		Reference	Depth Top	Depth Base	Type				Type (D, A, I, B)	Direction (L, P or U)		Lne	W	Dps	Dps'			Is	Is(50)
			m	m								mm	mm	mm	mm	kN	mm	MPa	MPa
2397610	RBH209	Not Given	17.15	17.20	C	Reddish brown SILTSTONE	WC = 5.4%	1	A	U	YES	-	81.5	52.0	48.0	1.2	70.6	0.24	0.28
2397644	RBH210	Not Given	9.52	9.77	C	Reddish brown silty CLAY	WC = 14.7%	1	I	U	YES	29.8	61.5	31.0	25.0	0.9	44.2	0.46	0.44
2397645	RBH210	Not Given	10.95	11.15	C	Reddish brown silty CLAY	WC = 12.5%	1	A	U	YES	-	82.4	44.0	40.0	0.2	64.8	0.04	0.04
2397646	RBH210	Not Given	13.18	13.28	C	Reddish brown SILTSTONE	WC = 4.1%	1	A	U	YES	-	84.7	77.0	61.0	2.6	81.1	0.39	0.48
2397647	RBH210	Not Given	14.35	14.59	C	Reddish brown silty CLAY	WC = 15.7%	1	A	U	YES	-	83.0	48.0	39.0	0.2	64.2	0.05	0.05
2397648	RBH210	Not Given	16.58	16.64	C	Reddish brown SILTSTONE	WC = 9.1%	1	A	U	YES	-	85.0	39.0	36.0	0.3	62.4	0.08	0.09
2397649	RBH210	Not Given	20.57	20.62	C	Reddish brown SILTSTONE	WC = 6.1%	1	A	U	YES	-	80.4	43.0	40.0	0.4	64.0	0.09	0.10

Note: # non accredited; Test Type: D - Diametral, A - Axial, I - Irregular Lump, B - Block; Direction: L - parallel to planes of weakness, P - perpendicular to planes of weakness, U - unknown or random;
Dimensions: Dps - Distance between platens (platen separation), Dps' - at failure (see ISRM note 6), Lne - Length from platens to nearest free end W - Width of shortest dimension perpendicular to load, P;
Detailed legend for test and dimensions, based on ISRM, is shown above; Size factor, F = (De/50)0.45 for all tests

Comments: Replaces Analytical Report Number 22-79461, issue no 1; Additional results of PL

Signed:

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for and on behalf of i2 Analytical Ltd

Date Reported: 19/09/2022

GF 134.13

SUMMARY REPORT

DETERMINATION OF UNIAXIAL COMPRESSIVE STRENGTH OF ROCK MATERIALS

Tested in Accordance with: ISRM, 2007, p153, part 1

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

4041

Client: ROC Consulting Ltd

Client Address: Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ

Contact: Reece McGuinnes

Site Address: Plots NT02-NT04

Client Reference: 4328
Job Number: 22-79461
Date Sampled: Not Given
Date Received: 19/08/2022
Date Tested: 07/09 - 15/09/2022
Sampled By: Client - RM

Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	Specimen Dimensions (2)				Bulk density (2)	Water Content (1)	Uniaxial Compression (3)			
		Reference	Depth Top m	Depth Base m	Type			Diameter mm	Length mm	H/D	Orientation of sample	Mg/m3	%	Condition	Stress Rate Mpa/s	Mode of failure	UCS Mpa
2397630	RBH201	Not Given	17.88	18.20	C	Light brown to grey SILTSTONE		86.7	240.2	2.8	Vertical	2.28	6.8	as received	0.0339	S + AC	15.9
2397627	RBH202	Not Given	21.56	21.75	C	Brown SILTSTONE	Sample is below recommended length to diameter ratio.	86.4	119.8	1.4	Vertical	2.47	5.2	as received	0.0341	MS + AC	12.4
2397613	RBH206	Not Given	10.87	11.07	C	Brown SILTSTONE	Sample is below recommended length to diameter ratio.	89.7	134.6	1.5	Vertical	2.28	4.7	as received	0.0158	MS + AC	5.73
2397616	RBH206	Not Given	15.75	16.11	C	Brown SILTSTONE		89.2	246.4	2.8	Vertical	2.43	5.7	as received	0.0320	MS + AC	10.4
2397666	RBH206	Not Given	18.59	18.94	C	Light grey SILTSTONE		90.0	249.0	2.8	Vertical	2.18	5.2	as received	0.0315	S + AC	15.0
2397654	RBH208	Not Given	18.00	18.21	C	Brown to grey SILTSTONE	Sample is below recommended length to diameter ratio.	86.3	120.6	1.4	Vertical	2.29	5.7	as received	0.0513	MS + AC	25.5
2397650	RBH210	Not Given	12.28	12.46	C	Brown SILTSTONE	Sample is below recommended length to diameter ratio.	84.9	139.2	1.6	Vertical	2.29	7.8	as received	0.0177	MS + AC	8.11

Note: 1 - ISRM p87 test 1, water content at 105 ± 3 oC, specimen as tested for UCS, 2 - ISRM p86 clause (vii), Caliper method used for determination of bulk volume and derivation of bulk density, 3 - ISRM p153 part 1, determination of Uniaxial Compressive Strength (UCS) of Rock Materials, above notes apply unless annotated otherwise in the remarks. Compaction machine: VJ Tech AUTOCON - VJT 51-3011; Mode of failure legend: S - Single shear, MS - multiple shear, AC - Axial cleavage, F - Fragmented

Comments: Replaces Analytical Report Number 22-79461, issue no 1; Additional results of UCS

Signed:

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for and on behalf of i2 Analytical Ltd

Date Reported: 19/09/2022

GF 223.14

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	ROC Consulting Ltd	Client Reference:	4328
Client Address:	Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ	Job Number:	22-79461
		Date Sampled:	Not Given
		Date Received:	19/08/2022
Contact:	Reece McGuinnes	Date Tested:	15/09/2022
Site Address:	Plots NT02-NT04	Sampled By:	Client - RM

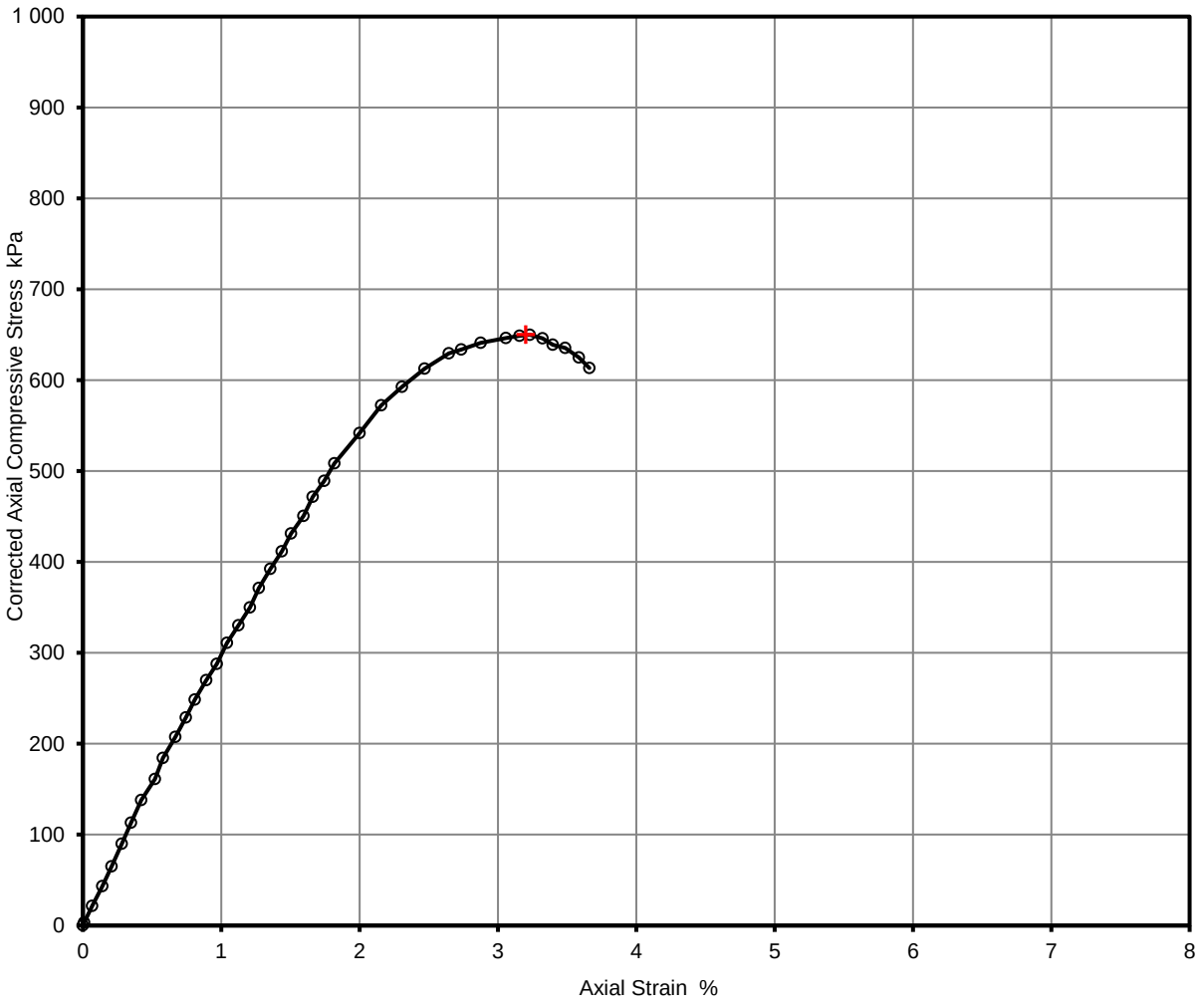
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

Laboratory Reference:	2397619	Depth Top [m]:	11.14
Hole No.:	RBH202	Depth Base [m]:	11.33
Sample Reference:	Not Given	Sample Type:	C
Sample Description:	Brown slightly silty CLAY		
Sample Preparation:			

Test Number	1		Rate of Strain	1.0	%/min
Length	121.0	mm	Axial Strain at failure	3.2	%
Diameter	87.3	mm	Unconfined Compressive Strength	650	kPa
Bulk Density	2.30	Mg/m3	Mode of Failure	Brittle	
Moisture Content	13.0	%			
Dry Density	2.03	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample



Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Sample is below recommended length to diameter ratio.
Replaces Analytical Report Number 22-79461, issue no 1; Additional results of UCS

Signed:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

for and on behalf of i2 Analytical Ltd

 Date Reported: 19/09/2022 **GF 243.10**

TEST CERTIFICATE

DETERMINATION OF THE UNCONFINED COMPRESSIVE STRENGTH - LOAD FRAME METHOD

Tested in Accordance with: BS 1377-7: 1990: Clause 7.2

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB

Environmental Science

Client:	ROC Consulting Ltd	Client Reference:	4328
Client Address:	Commercial Wharf, 6 Commercial Street, Castlefield, Manchester, M15 4PZ	Job Number:	22-79461
		Date Sampled:	Not Given
		Date Received:	19/08/2022
Contact:	Reece McGuinnes	Date Tested:	15/09/2022
Site Address:	Plots NT02-NT04	Sampled By:	Client - RM

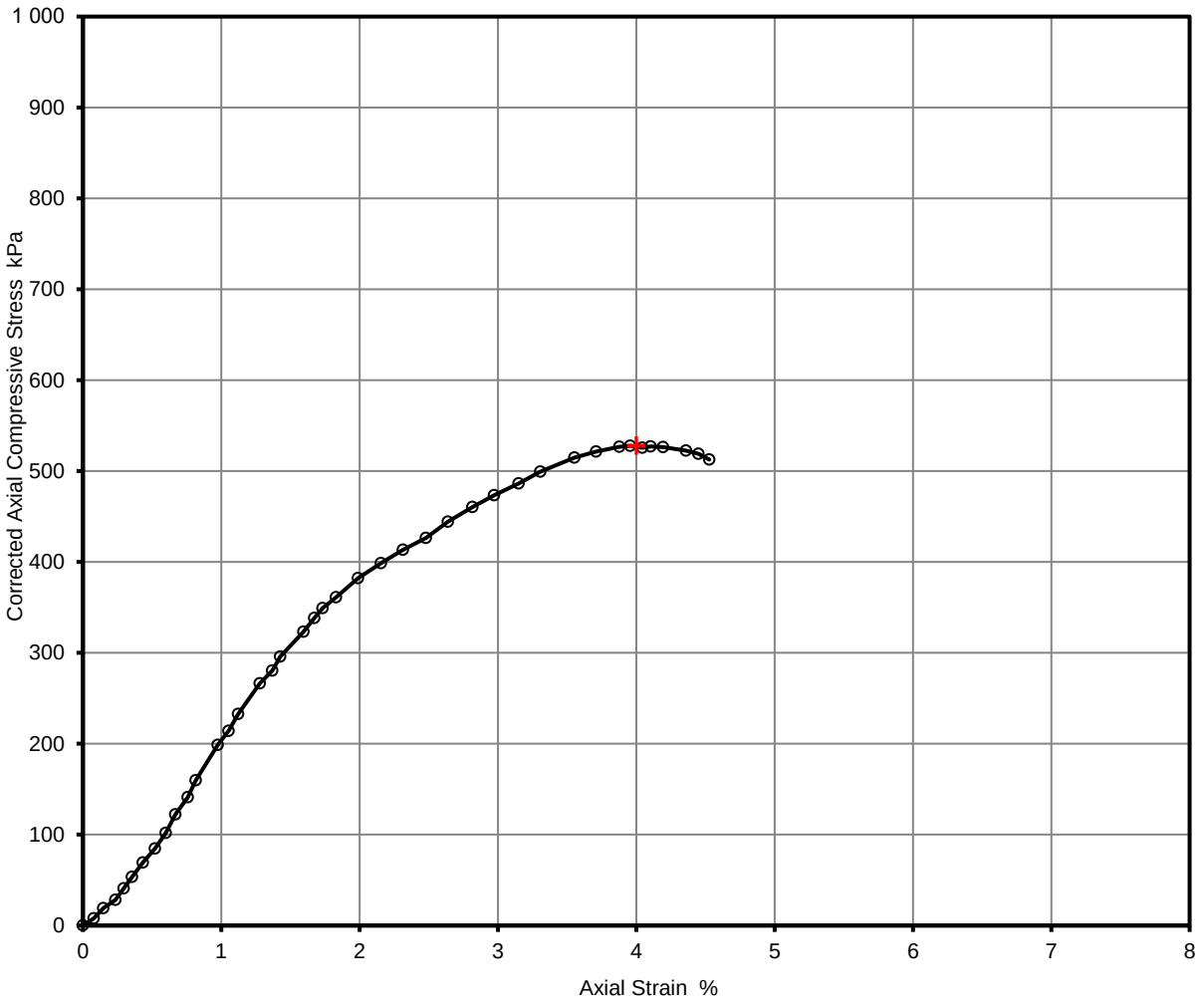
Testing carried out at i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland

Test Results:

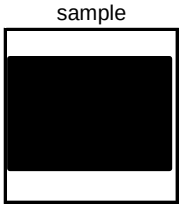
Laboratory Reference:	2397622	Depth Top [m]:	13.26
Hole No.:	RBH202	Depth Base [m]:	13.49
Sample Reference:	Not Given	Sample Type:	C
Sample Description:	Brown slightly silty CLAY		
Sample Preparation:			

Test Number	1		Rate of Strain	1.0	%/min
Length	101.6	mm	Axial Strain at failure	4.0	%
Diameter	89.8	mm	Unconfined Compressive Strength	528	kPa
Bulk Density	2.36	Mg/m3	Mode of Failure	Brittle	
Moisture Content	13.0	%			
Dry Density	2.08	Mg/m3			

Axial Compressive Stress v Axial Strain



Position within sample





Note: Axial compressive stress corrected for area change, and membrane effects (if used)

Remarks: Sample is below recommended length to diameter ratio.
Replaces Analytical Report Number 22-79461, issue no 1; Additional results of UCS

Signed:

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.

for and on behalf of i2 Analytical Ltd

 Date Reported: 19/09/2022 **GF 243.10**

LABORATORY REPORT

Contract Number: PSL23/3059

Report Date: 18 May 2023

Client's Reference: 4328

Client Name: ROC Consulting
Spring Lodge, 172 Chester Road
Helsby
Cheshire
WA6 0AR

For the attention of: Reece McGuiness

Contract Title: Plots NT02-04

Date Received: 27/4/2023
Date Commenced: 27/4/2023
Date Completed: 17/5/2023

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:

L Knight (Assistant Laboratory Manager)
R Berriman (Associate Director)
S Royle (Laboratory Manager)



A Watkins (Managing Director)
S Eyre (Senior Technical Coordinator)
A Fry (Section Manager)

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Hexthorpe,
Doncaster,
DN4 0AR
Tel: 01302 768098
Email: rberriman@prosoils.co.uk
awatkins@prosoils.co.uk

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
WS303		D	2.50		Brown gravelly very sandy CLAY.
WS305		D	1.80		Brown slightly gravelly sandy CLAY.
TP309		B	0.50	1.00	MADE GROUND dark brown very sandy clayey gravel with cobbles.
TP305		B	0.50		MADE GROUND dark brown very gravelly very sandy clay.
TP307		B	0.60		MADE GROUND dark brown very gravelly very sandy clay.
WS310		D	1.40		Brown mottled grey sandy CLAY.
WS312		D	3.00		Brown slightly gravelly very sandy CLAY.
TP308		B	0.50	1.00	MADE GROUND dark brown very gravelly very sandy clay.
MP301		B	1.00		MADE GROUND dark brown very gravelly clayey sand.
TP308		D	3.00		Brown mottled grey slightly gravelly sandy CLAY.
TP305		D	1.50		Brown mottled grey sandy CLAY.
TP309		D	0.80		MADE GROUND dark brown very gravelly very sandy clay.
TP301		B	1.00		Brown mottled grey sandy CLAY.
TP301		B	3.00		Brown gravelly clayey SAND.
TP306		B	0.50		MADE GROUND dark brown sandy slightly clayey gravel of cobbles.
TP302		B	0.40		MADE GROUND dark brown very sandy slightly clayey gravel.
TP306		B	1.50		Dark brown gravelly slightly clayey SAND.
TP304		B	0.50		MADE GROUND dark brown very sandy clayey gravel of cobbles.
TP304		D	2.20		Reddish brown sandy CLAY.

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
TP301		D	1.00		Brown mottled grey slightly gravelly sandy CLAY.
RBH305		B	0.50		MADE GROUND dark brown very sandy clayey gravel.
HP301		B	0.50		MADE GROUND dark brown very gravelly very clayey sand.
RBH306			4.50	6.00	Firm brown slightly gravelly sandy CLAY.

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plots NT02-04

Contract No:
PSL23/3059
Client Ref:
4328

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
WS303		D	2.50		15			24	14	10	93	Low Plasticity CL
WS305		D	1.80		25			42	20	22	94	Intermediate Plasticity CI
TP309		B	0.50	1.00	19							
TP305		B	0.50		22							
TP307		B	0.60		19							
WS310		D	1.40		19			40	20	20	100	Intermediate Plasticity CI
WS312		D	3.00		16			27	14	13	94	Low Plasticity CL
TP308		B	0.50	1.00	20							
MP301		B	1.00		27							
TP308		D	3.00		21			42	21	21	95	Intermediate Plasticity CI
TP305		D	1.50		26							
TP309		D	0.80		23							
TP301		B	1.00		24							
TP301		B	3.00		12							
TP306		B	0.50		22							
TP302		B	0.40		18							
TP306		B	1.50		12				NP			
TP304		B	0.50		26							
TP304		D	2.20		12			36	19	17	100	Intermediate Plasticity CI

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

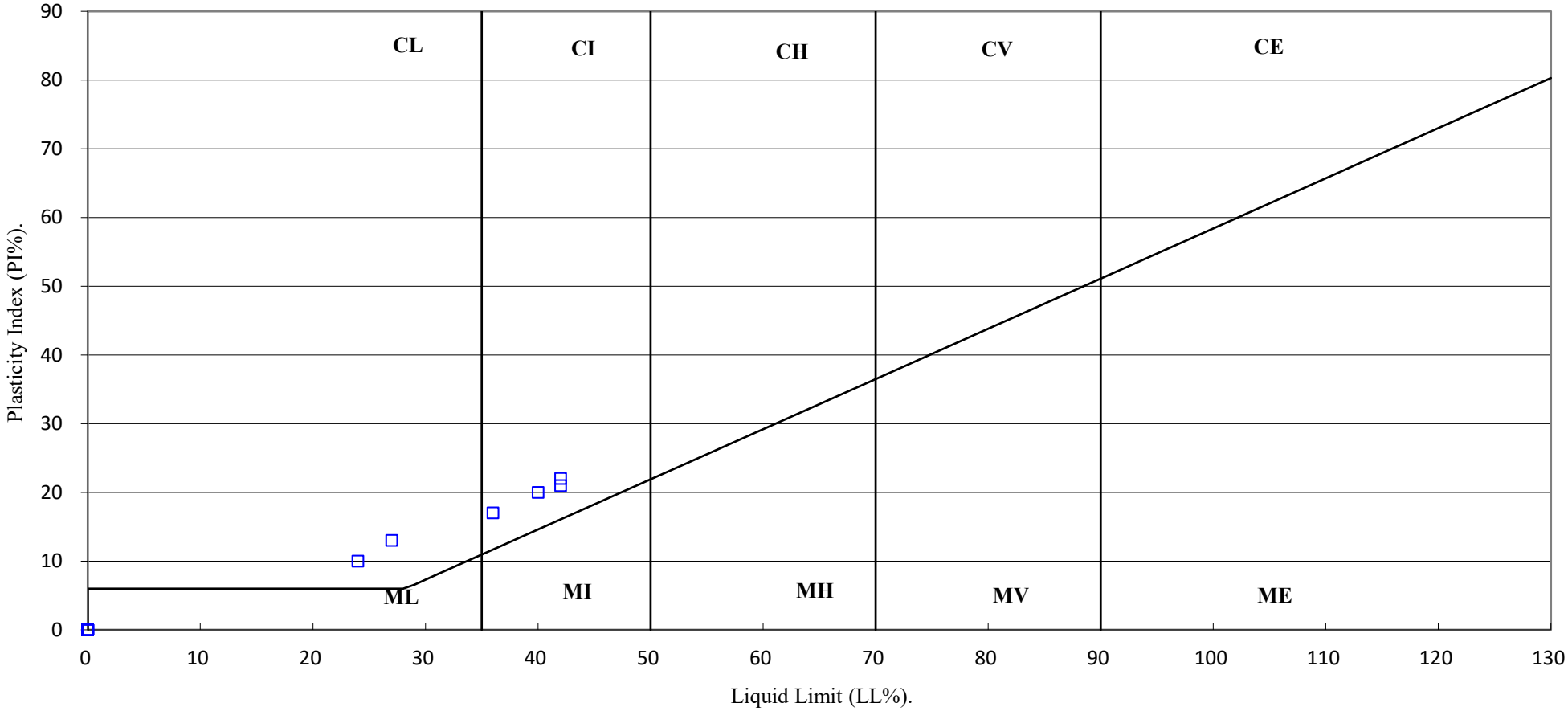
UKAS TESTING 4043

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Plots NT02-04

Contract No:
PSL23/3059
Client Ref:
4328

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	Plots NT02-04	Contract No: PSL23/3059
PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY		Client Ref: 4328

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
TP301		D	1.00		21							
RBH305		B	0.50		10							
HP301		B	0.50		23							

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plots NT02-04

Contract No:

PSL23/3059

Client Ref:

4328

PARTICLE SIZE DISTRIBUTION TEST

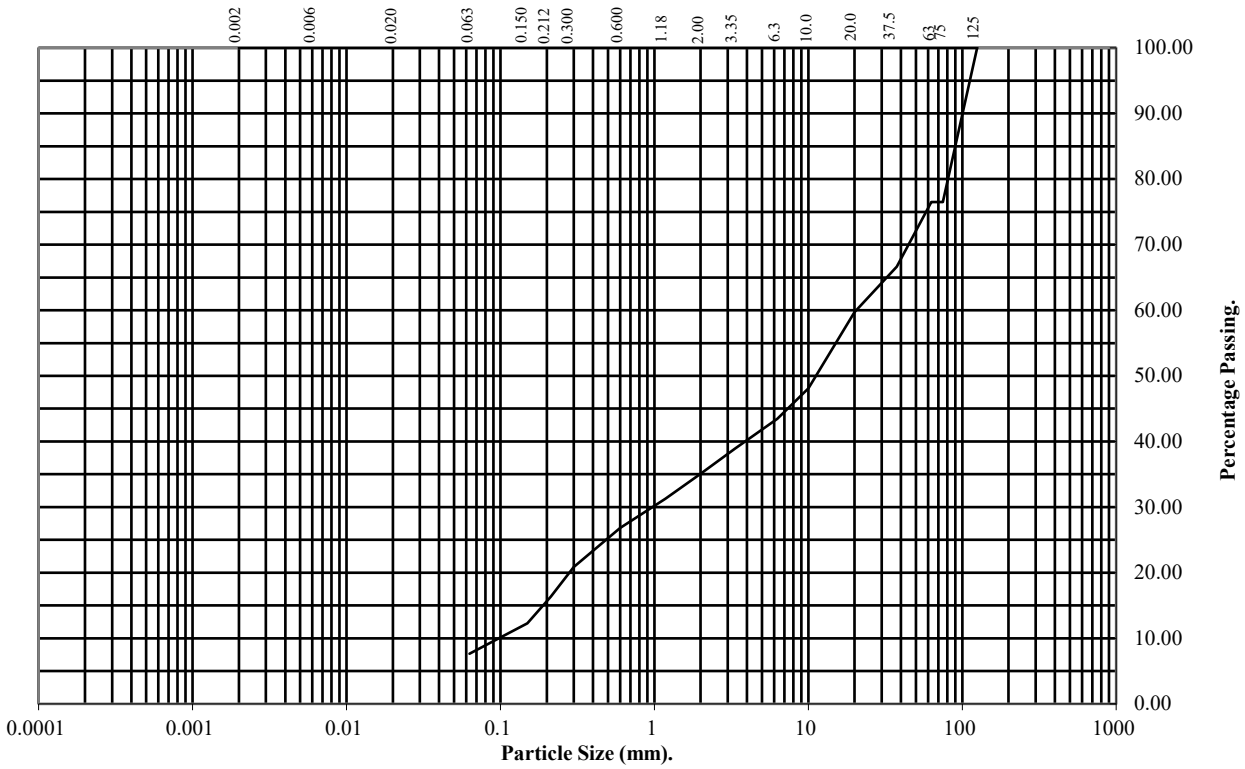
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP309 **Top Depth (m):** 0.50

Sample Number: **Base Depth(m):** 1.00

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	76
63	76
37.5	67
20	60
10	48
6.3	43
3.35	39
2	35
1.18	31
0.6	27
0.3	21
0.212	16
0.15	12
0.063	8

Soil Fraction	Total Percentage
Cobbles	24
Gravel	41
Sand	27
Silt/Clay	8

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plots NT02-04

Contract No: PSL23/3059

Client Ref: 4328

PARTICLE SIZE DISTRIBUTION TEST

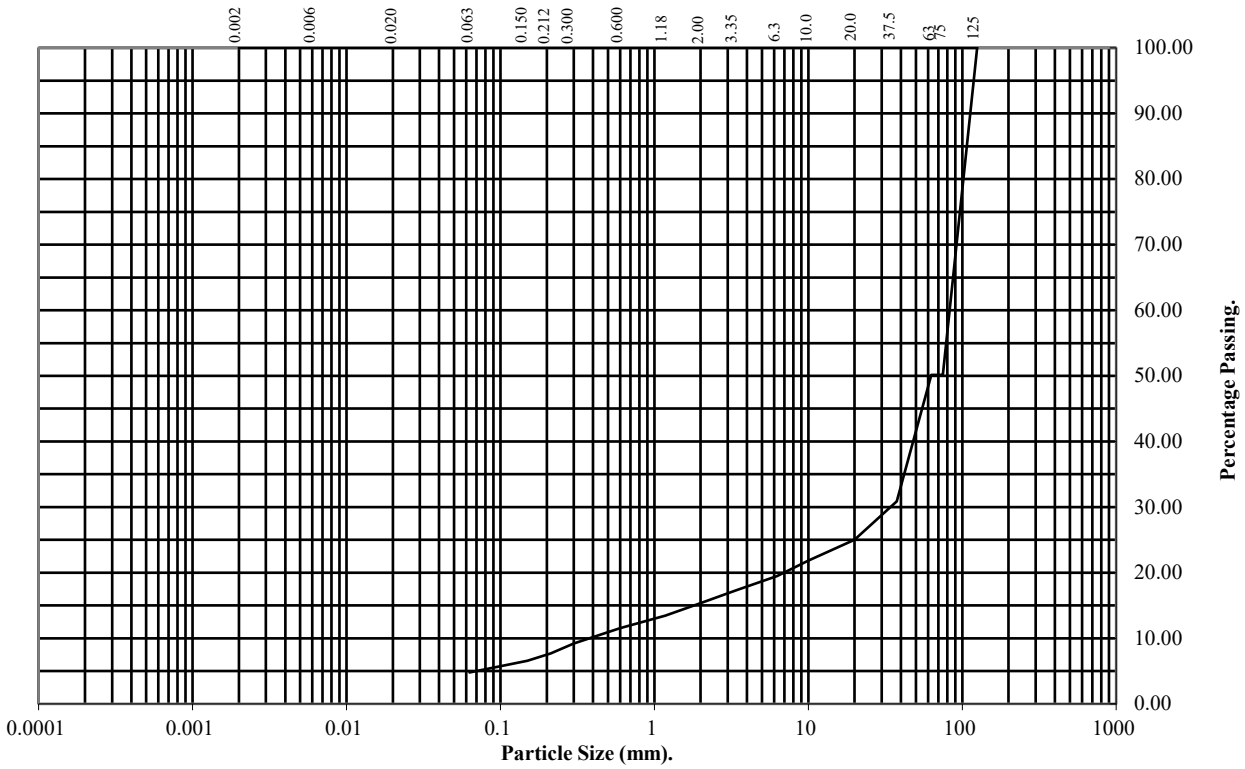
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP306 **Top Depth (m):** 0.50

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	50
63	50
37.5	31
20	25
10	22
6.3	19
3.35	17
2	15
1.18	13
0.6	12
0.3	9
0.212	8
0.15	7
0.063	5

Soil Fraction	Total Percentage
Cobbles	50
Gravel	35
Sand	10
Silt/Clay	5

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

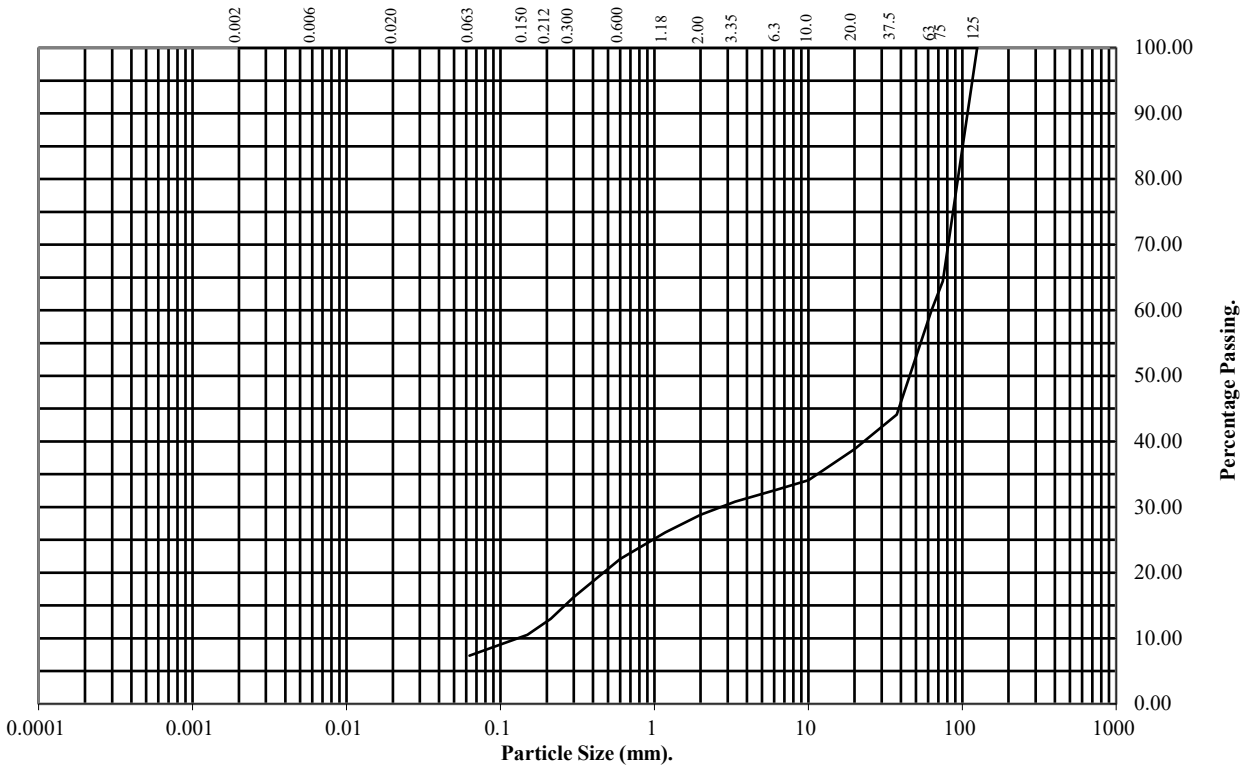
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP304 **Top Depth (m):** 0.50

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	64
63	60
37.5	44
20	39
10	34
6.3	33
3.35	31
2	29
1.18	26
0.6	22
0.3	16
0.212	13
0.15	11
0.063	7

Soil Fraction	Total Percentage
Cobbles	40
Gravel	31
Sand	22
Silt/Clay	7

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

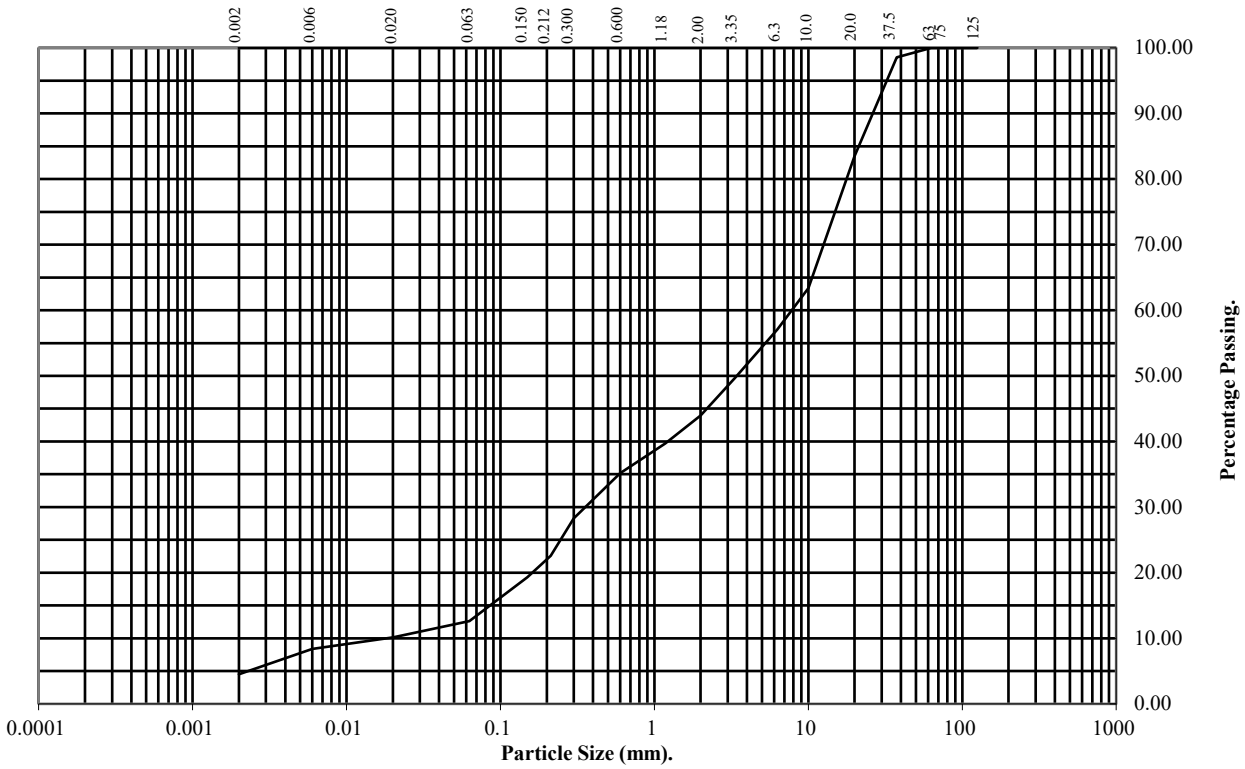
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: RBH305 **Top Depth (m):** 0.50

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	99
20	83
10	63
6.3	57
3.35	50
2	44
1.18	40
0.6	35
0.3	28
0.212	23
0.15	19
0.063	13

Particle Diameter	Percentage Passing
0.02	10
0.006	8
0.002	5

Soil Fraction	Total Percentage
Cobbles	0
Gravel	56
Sand	31
Silt	8
Clay	5

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plots NT02-04

Contract No:
PSL23/3059
Client Ref:
4328

PARTICLE SIZE DISTRIBUTION TEST

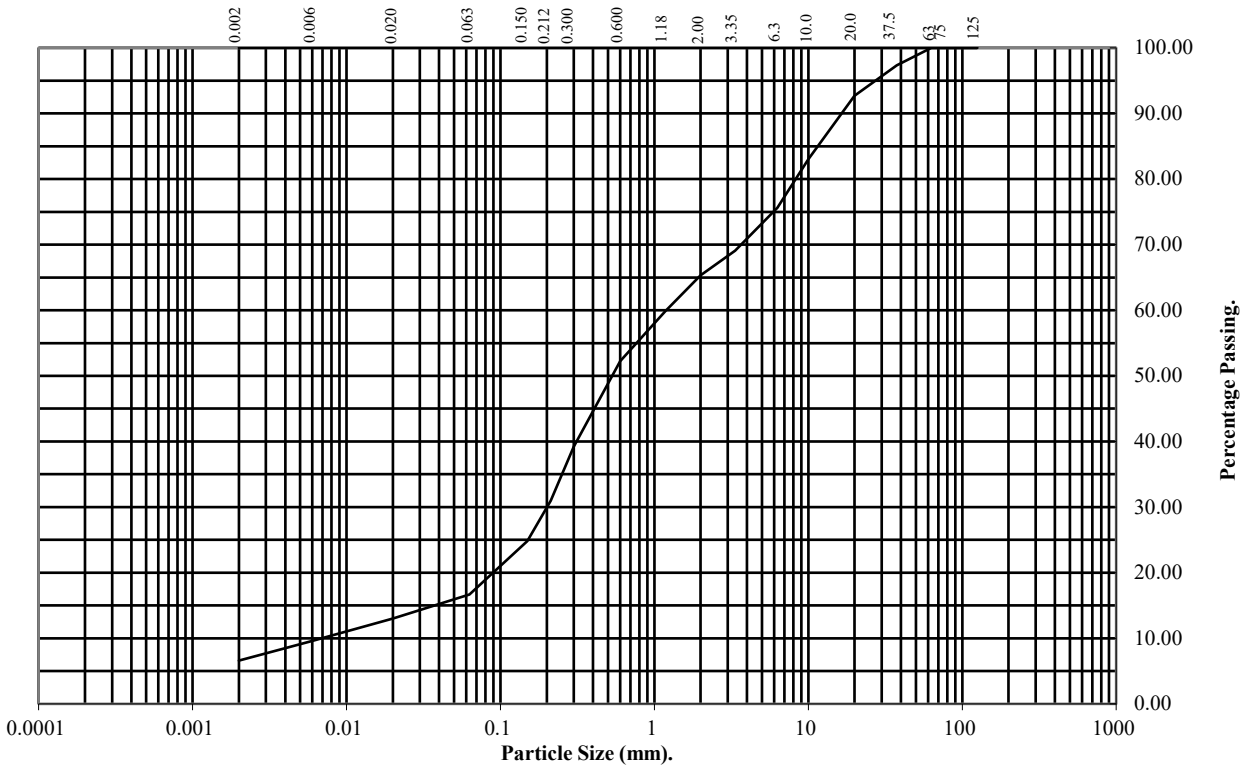
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: HP301 **Top Depth (m):** 0.50

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	97
20	93
10	83
6.3	76
3.35	69
2	65
1.18	60
0.6	52
0.3	39
0.212	31
0.15	25
0.063	17

Particle Diameter	Percentage Passing
0.02	13
0.006	10
0.002	7

Soil Fraction	Total Percentage
Cobbles	0
Gravel	35
Sand	48
Silt	10
Clay	7

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

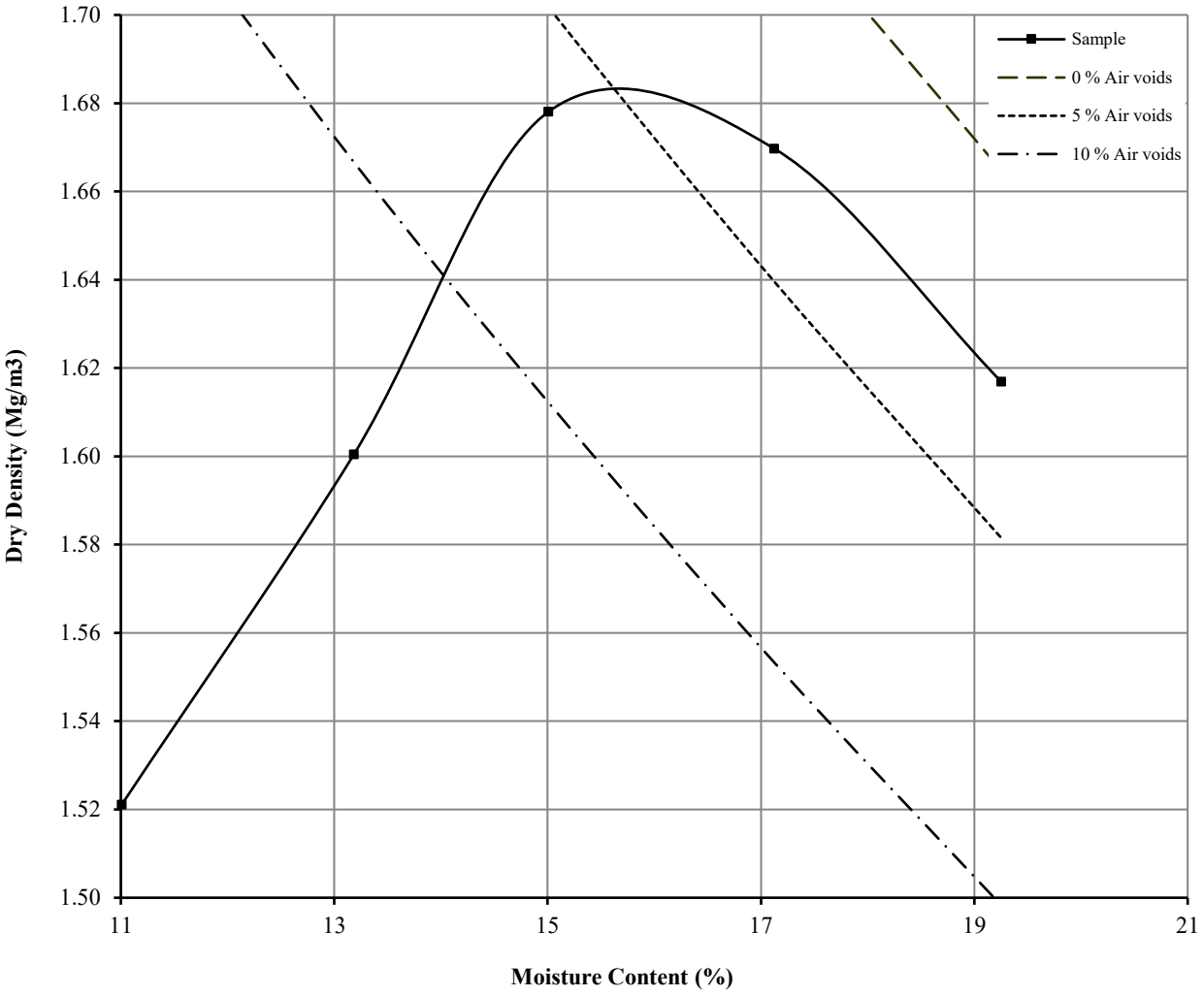
Plots NT02-04

Contract No:
PSL23/3059
Client Ref:
4328

DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

Non compliance with BS 1377 : Part 4 : Clause 3.6 : 1990

Hole Number:	**TP309**	**Top Depth (m) :**	**0.50**
Sample Number:		**Base Depth (m) :**	**1.00**
Sample Type:	**B**		



Initial Moisture Content:		19	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.45	Assumed	Material Retained on 37.5 mm Test Sieve (%):		33
Maximum Dry Density (Mg/m3):		1.68	Material Retained on 20.0 mm Test Sieve (%):		7
Optimum Moisture Content (%):		15			
Remarks See summary of soil descriptions					

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plots NT02-04

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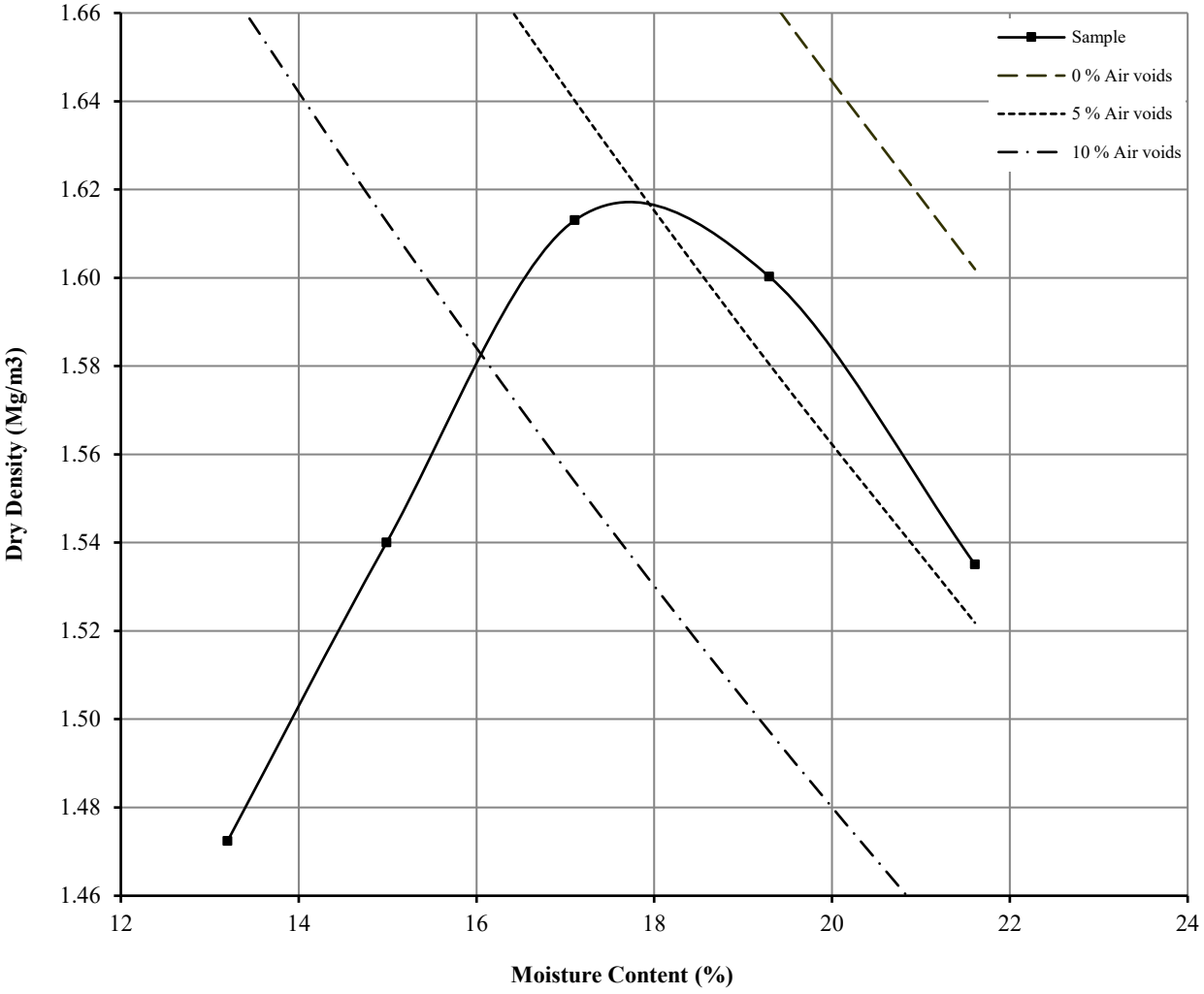
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

Non compliance with BS 1377 : Part 4 : Clause 3.6 : 1990

Hole Number: TP306 **Top Depth (m) :** 0.50

Sample Number: **Base Depth (m) :**

Sample Type: B



Initial Moisture Content:		22	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.45	Assumed	Material Retained on 37.5 mm Test Sieve (%):		69
Maximum Dry Density (Mg/m3):		1.61	Material Retained on 20.0 mm Test Sieve (%):		6
Optimum Moisture Content (%):		17			
Remarks See summary of soil descriptions					

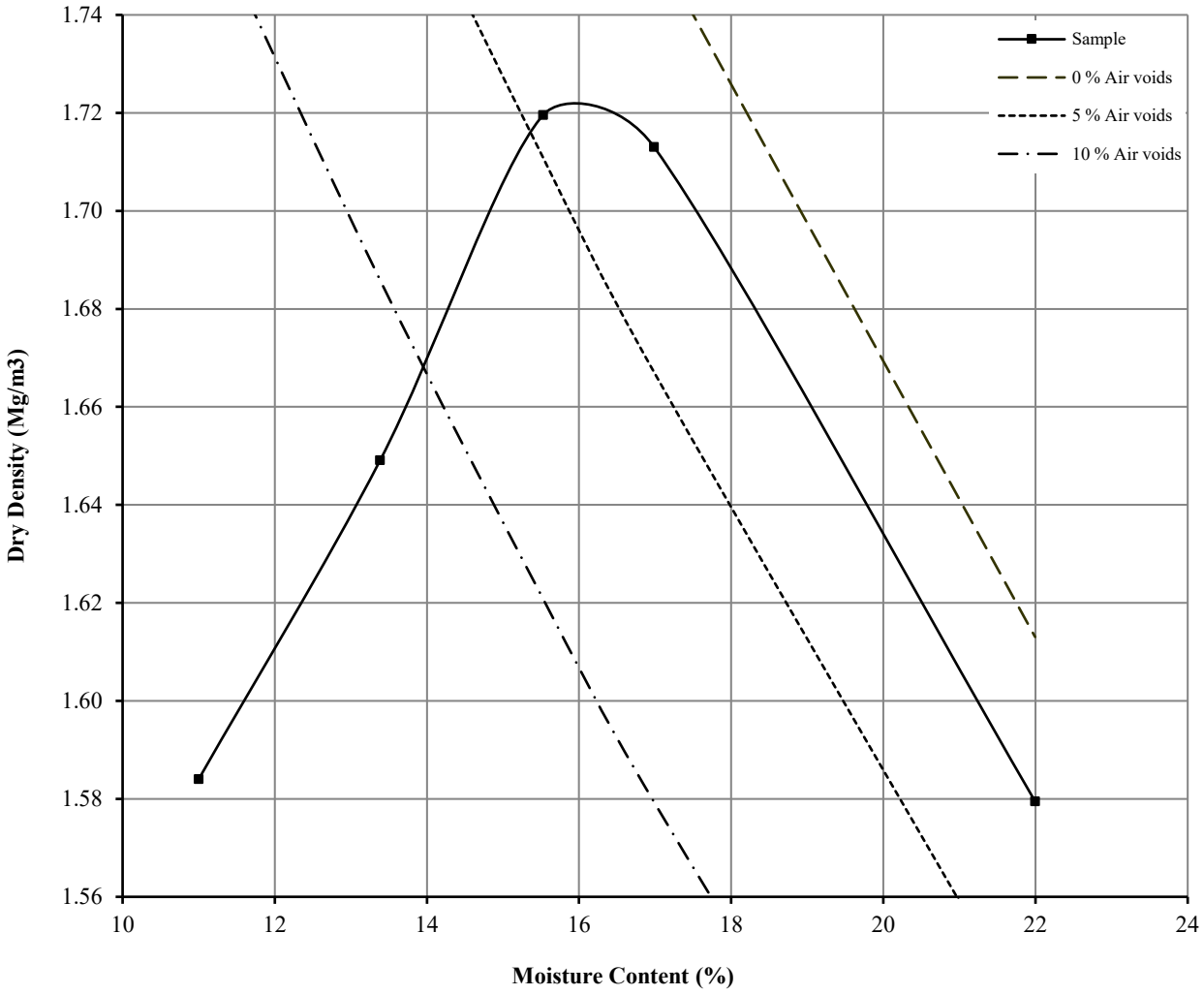
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

Non compliance with BS 1377 : Part 4 : Clause 3.6 : 1990

Hole Number: TP304 **Top Depth (m) :** 0.50

Sample Number: **Base Depth (m) :**

Sample Type: B



Initial Moisture Content:		26	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.5	Assumed	Material Retained on 37.5 mm Test Sieve (%):		56
Maximum Dry Density (Mg/m3):		1.72	Material Retained on 20.0 mm Test Sieve (%):		5
Optimum Moisture Content (%):		16			
Remarks See summary of soil descriptions					

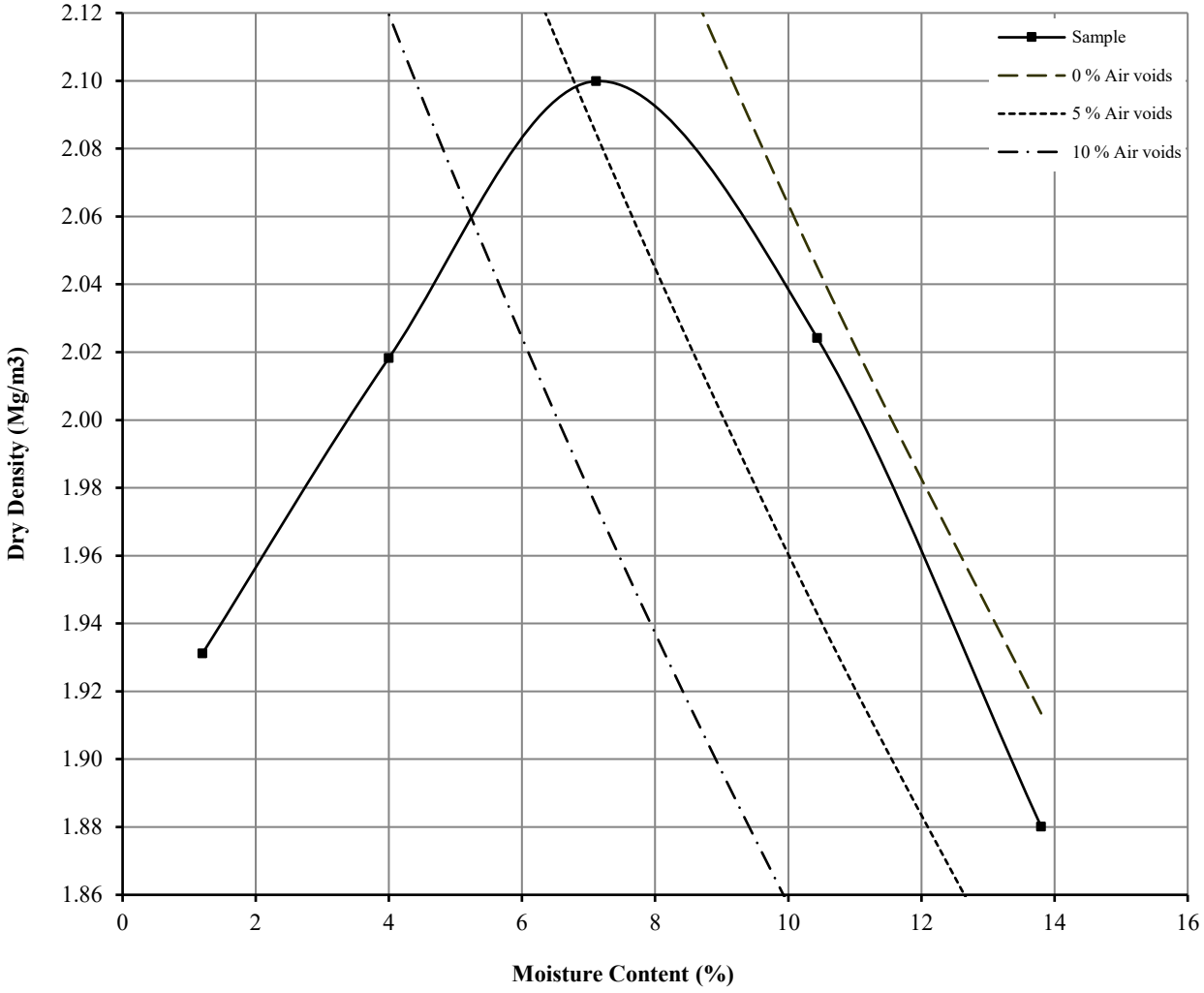
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.6 : 1990

Hole Number: RBH305 **Top Depth (m) :** 0.50

Sample Number: **Base Depth (m) :**

Sample Type: B



Initial Moisture Content:		10	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.6	Assumed	Material Retained on 37.5 mm Test Sieve (%):		1
Maximum Dry Density (Mg/m3):		2.10	Material Retained on 20.0 mm Test Sieve (%):		16
Optimum Moisture Content (%):		7			
Remarks See summary of soil descriptions					

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plots NT02-04

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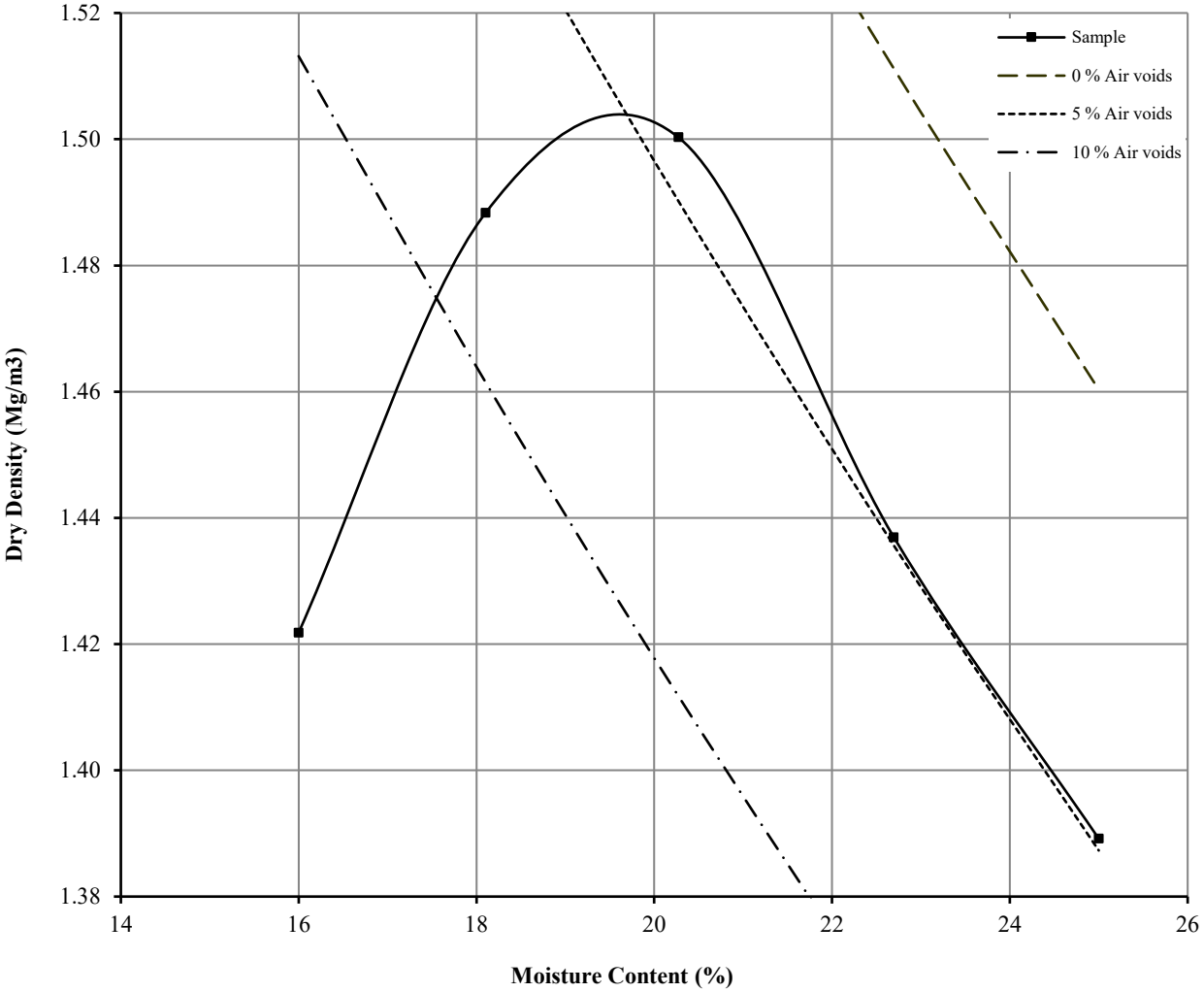
DRY DENSITY / MOISTURE CONTENT RELATIONSHIP

BS 1377 : Part 4 : Clause 3.6 : 1990

Hole Number: HP301 **Top Depth (m) :** 0.50

Sample Number: **Base Depth (m) :**

Sample Type: B



Initial Moisture Content:		23	Method of Compaction:	4.5kg	Separate Samples
Particle Density (Mg/m3):	2.3	Assumed	Material Retained on 37.5 mm Test Sieve (%):		3
Maximum Dry Density (Mg/m3):		1.50	Material Retained on 20.0 mm Test Sieve (%):		4
Optimum Moisture Content (%):		20			
Remarks See summary of soil descriptions					

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plots NT02-04

Contract
PSL23/3059
Client Ref
4328

ONE DIMENSIONAL CONSOLIDATION TEST

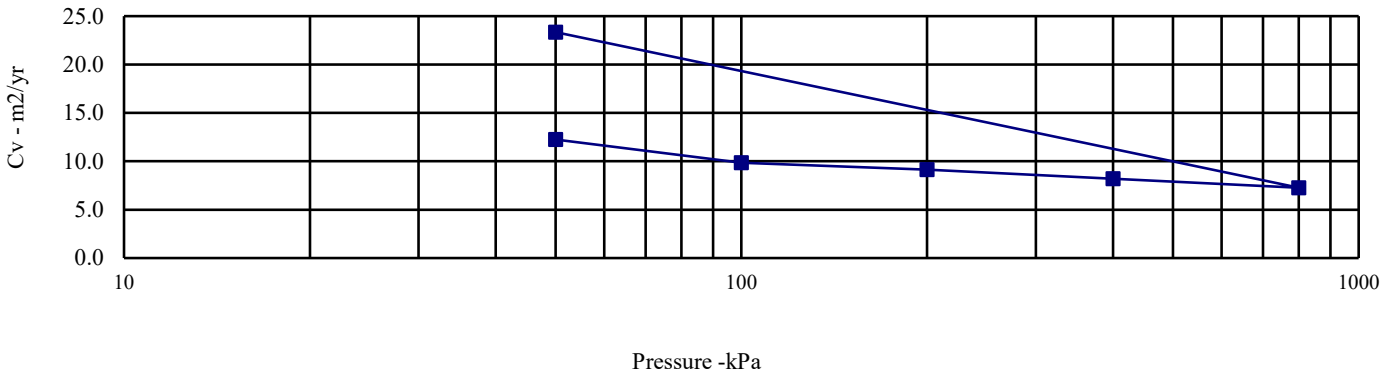
BS 1377: Part 5: 1990: Clause 3

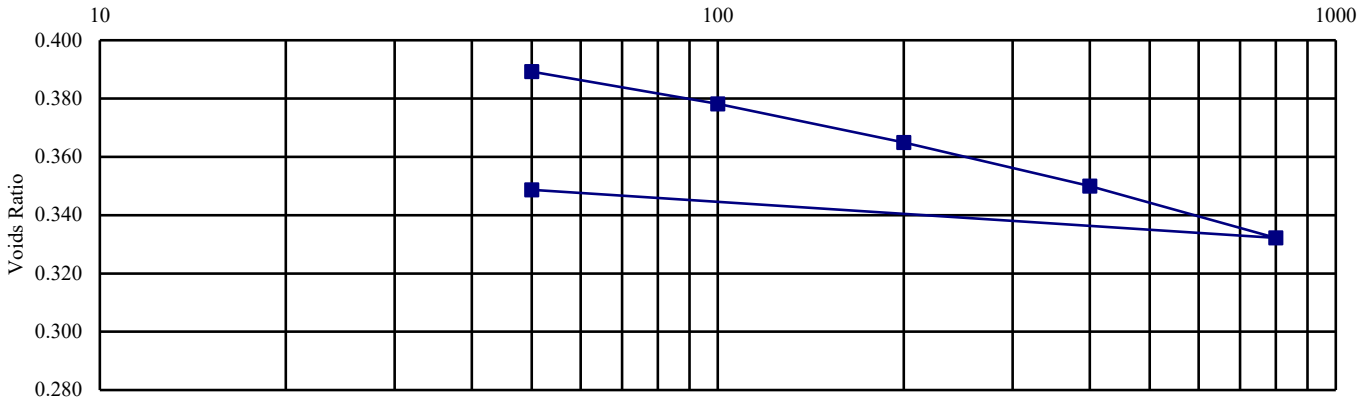
Hole Number: **RBH306** **Top Depth (m):** **4.50**

Sample Number: **Base Depth (m) :** **6.00**

Sample Type:

Initial Conditions		Pressure Range kPa		Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	10						
Bulk Density (Mg/m3):	2.04	0	50	0.658	12.247	Method used to determine CV:	T90
Dry Density (Mg/m3):	1.84	50	100	0.159	9.834		
Voids Ratio:	0.436	100	200	0.096	9.139	Nominal temperature during test ' C:	20
Degree of saturation:	63.3	200	400	0.055	8.200		
Height (mm):	20	400	800	0.033	7.267	Remarks:	
Diameter (mm)	75	800	50	0.017	23.347	See summary of soil descriptions	
Particle Density (Mg/m3): Assumed	2.65						





UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Plots NT02-04**	**Contract No:** PSL23/3059 **Client Ref:** 4328

UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION

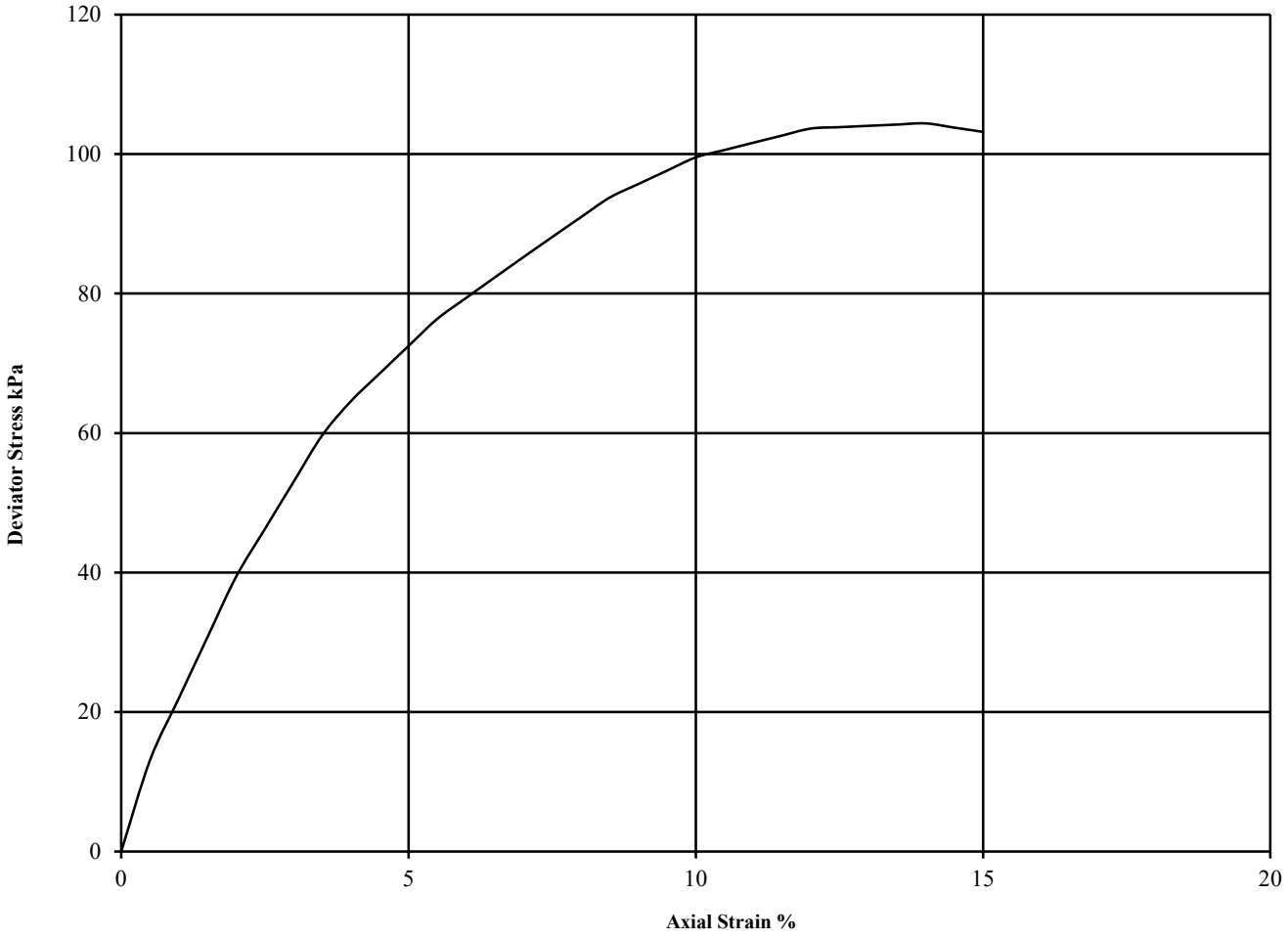
WITHOUT MEASUREMENT OF PORE PRESSURE

BS1377 : Part7 : 1990: Clause 8

Hole Number: RBH306 **Top Depth (m):** 4.50

Sample Number: **Base Depth (m):** 6.00

Sample Type



Diameter (mm):		92	Height (mm):		184	Test:	UU Single Stage		Remarks:
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Deviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Undisturbed Sample Sample taken from top of tube Rate of strain = 2 %/min Latex Membrane used 0.2 mm thick, Correction applied 0.38
1	11	2.01	1.80	50	104	52	14.0	Intermediate	See summary of soil descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plots NT02-04

Contract No: PSL23/3059

Client Ref: 4328

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		Area	D_e^2	D_e	Failure Load (P)		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	W	D	(mm2)		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
RBH305	4.80		A	Perp	85	42	3570	4545.47	67.42	-	0.18	0.04	1.144	0.05	Valid	
RBH305	5.02		A	Perp	85	36	3060	3896.11	62.42	-	0.14	0.04	1.105	0.04	Valid	
RBH305	5.22		A	Perp	85	42	3570	4545.47	67.42	-	0.18	0.04	1.144	0.05	Valid	
RBH305	7.80		A	Perp	85	40	3400	4329.01	65.80	-	0.17	0.04	1.131	0.04	Valid	
RBH305	9.98		A	Perp	85	43	3655	4653.69	68.22	-	0.14	0.03	1.150	0.03	Valid	
RBH305	11.23		A	Perp	85	46	3910	4978.37	70.56	-	0.17	0.03	1.168	0.04	Valid	
RBH305	11.87		A	Perp	85	40	3400	4329.01	65.80	-	0.27	0.06	1.131	0.07	Valid	
RBH305	12.16		A	Perp	85	50	4250	5411.27	73.56	-	0.26	0.05	1.190	0.06	Valid	
RBH305	12.39		A	Perp	85	48	4080	5194.82	72.08	-	0.15	0.03	1.179	0.03	Valid	
RBH306	8.62		A	Perp	85	42	3570	4545.47	67.42	-	0.21	0.05	1.144	0.05	Valid	
RBH306	18.23		A	Perp	85	43	3655	4653.69	68.22	-	0.18	0.04	1.150	0.04	Valid	
RBH306	18.77		A	Perp	85	40	3400	4329.01	65.80	-	0.15	0.03	1.131	0.04	Valid	
RBH306	19.26		A	Perp	85	48	4080	5194.82	72.08	-	0.20	0.04	1.179	0.05	Valid	
RBH306	19.62		A	Perp	85	38	3230	4112.56	64.13	-	0.15	0.04	1.119	0.04	Valid	
RBH306	20.04		A	Perp	85	40	3400	4329.01	65.80	-	0.19	0.04	1.131	0.05	Valid	
RBH306	21.20		A	Perp	85	36	3060	3896.11	62.42	-	0.20	0.05	1.105	0.06	Valid	
RBH306	21.44		A	Perp	85	43	3655	4653.69	68.22	-	0.24	0.05	1.150	0.06	Valid	
RBH306	22.00		A	Perp	85	44	3740	4761.92	69.01	-	0.20	0.04	1.156	0.05	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

A = Axial, D = Diametral, I = Irregular

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

PLOTS NT2-04

Contract No:

PSL23/3059

Client Ref:

4328

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		D_e^2	D_e	Failure Load		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	L	D		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
RBH305	4.80		D	Par	-	85	7225	85.00	-	0.11	0.015	1.270	0.02	Valid	
RBH305	5.02		D	Par	-	85	7225	85.00	-	0.08	0.011	1.270	0.01	Valid	
RBH305	5.22		D	Par	-	85	7225	85.00	-	0.12	0.017	1.270	0.02	Valid	
RBH305	7.80		D	Par	-	85	7225	85.00	-	0.09	0.012	1.270	0.02	Valid	
RBH305	9.98		D	Par	-	85	7225	85.00	-	0.10	0.014	1.270	0.02	Valid	
RBH305	11.23		D	Par	-	85	7225	85.00	-	0.13	0.018	1.270	0.02	Valid	
RBH305	11.87		D	Par	-	85	7225	85.00	-	0.18	0.025	1.270	0.03	Valid	
RBH305	12.16		D	Par	-	85	7225	85.00	-	0.17	0.024	1.270	0.03	Valid	
RBH305	12.39		D	Par	-	85	7225	85.00	-	0.13	0.018	1.270	0.02	Valid	
RBH306	8.62		D	Par	-	85	7225	85.00	-	0.16	0.022	1.270	0.03	Valid	
RBH306	18.23		D	Par	-	85	7225	85.00	-	0.14	0.019	1.270	0.02	Valid	
RBH306	18.77		D	Par	-	85	7225	85.00	-	0.13	0.018	1.270	0.02	Valid	
RBH306	19.26		D	Par	-	85	7225	85.00	-	0.17	0.024	1.270	0.03	Valid	
RBH306	19.62		D	Par	-	85	7225	85.00	-	0.11	0.015	1.270	0.02	Valid	
RBH306	20.04		D	Par	-	85	7225	85.00	-	0.15	0.021	1.270	0.03	Valid	
RBH306	21.20		D	Par	-	85	7225	85.00	-	0.13	0.018	1.270	0.02	Valid	
RBH306	21.44		D	Par	-	85	7225	85.00	-	0.18	0.025	1.270	0.03	Valid	
RBH306	22.00		D	Par	-	85	7225	85.00	-	0.14	0.019	1.270	0.02	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

PLOTS NT2-04

Contract No:

PSL23/3059

Client Ref:

4328

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		Area	D_e^2	D_e	Failure Load (P)		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	W	D	(mm2)		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
RBH307	18.16		A	Perp	85	40	3400	4329.01	65.80	-	0.26	0.06	1.131	0.07	Valid	
RBH307	19.04		A	Perp	85	41	3485	4437.24	66.61	-	0.22	0.05	1.138	0.06	Valid	
RBH307	19.23		A	Perp	85	38	3230	4112.56	64.13	-	0.27	0.07	1.119	0.07	Valid	
RBH307	19.50		A	Perp	85	42	3570	4545.47	67.42	-	0.27	0.06	1.144	0.07	Valid	
RBH305	10.82		A	Perp	85	49	4165	5303.04	72.82	-	0.49	0.09	1.184	0.11	Valid	
RBH306	20.42		A	Perp	85	39	3315	4220.79	64.97	-	0.38	0.09	1.125	0.10	Valid	
RBH307	19.83		A	Perp	85	48	4080	5194.82	72.08	-	0.37	0.07	1.179	0.08	Valid	
RBH307	20.46		A	Perp	85	45	3825	4870.14	69.79	-	0.38	0.08	1.162	0.09	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

A = Axial, D = Diametral, I = Irregular

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

PLOTS NT2-04

Contract No:

PSL23/3059

Client Ref:

4328

SUMMARY OF POINT LOAD TEST RESULTS

ISRM Suggested Methods : 2007

Borehole Number	Depth (m)	Sample Ref	Test Type	Orientation	Dimensions (mm)		D_e^2	D_e	Failure Load		I_s	Corr Fac	I_{s50}	Failure Type	Remarks
				Par / Perp	L	D		(mm)	(Mpa)	(kN)	(MPa)	F	(MPa)		
RBH307	18.16		D	Par	-	85	7225	85.00	-	0.17	0.024	1.270	0.03	Valid	
RBH307	19.04		D	Par	-	85	7225	85.00	-	0.16	0.022	1.270	0.03	Valid	
RBH307	19.23		D	Par	-	85	7225	85.00	-	0.20	0.028	1.270	0.04	Valid	
RBH307	19.50		D	Par	-	85	7225	85.00	-	0.19	0.026	1.270	0.03	Valid	
RBH305	10.82		D	Par	-	85	7225	85.00	-	0.16	0.022	1.270	0.03	Valid	
RBH306	20.42		D	Par	-	85	7225	85.00	-	0.20	0.028	1.270	0.04	Valid	
RBH307	19.83		D	Par	-	85	7225	85.00	-	0.22	0.030	1.270	0.04	Valid	
RBH307	20.46		D	Par	-	85	7225	85.00	-	0.14	0.019	1.270	0.02	Valid	

Note All testing carried out on samples at as received water content

Par = parallel, Perp = perpendicular, U = Random

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

PLOTS NT2-04

Contract No:

PSL23/3059

Client Ref:

4328

UNIAXIAL COMPRESSIVE STRENGTH

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

Borehole Number:	**RBH305**	**Top Depth (m):**	**9.57**
Sample Number:	**-**	**Base Depth (m):**	**9.87**
Sample Type:	**C**	**Sample Date:**	**-**
Storage Condition:	**Sealed**	**Date of Reciept**	**25/04/2023**
Sample Description:	**Brown MUDSTONE**		

Specimen Details/Conditions	
Diameter - mm:	85.01
Height - mm:	195.10
Water Content - %:	13.1
Sample Mass - g:	2766.8
Bulk Density - Mg/m^3:	2.50
Dry Density - Mg/m^3:	2.21
Height Ratio: * Sample does not comply with H:D ratio	2.3
Degree of Saturation - %:	121
Assumed Specific Gravity for Degree of Saturation:	2.90

Test Result	
Load Frame/Machine:	CM1/Controls
Date of test:	16/05/2023
Test Duration - mins:	00:17
Orientation:	Unknown
Stress Rate - MPa/s:	0.69
Strain at Failure - kN:	66.87
Unconfined Compressive Strength - Mpa:	11.8
Mode of Failure:	Vertical Shear

Remarks: -

UNIAXIAL COMPRESSIVE STRENGTH

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

Borehole Number:	**RBH305**	**Top Depth (m):**	**13.23**
Sample Number:	**-**	**Base Depth (m):**	**13.41**
Sample Type:	**C**	**Sample Date:**	**-**
Storage Condition:	**Sealed**	**Date of Reciept**	**25/04/2023**
Sample Description:	**Reddish brown SANDSTONE**		

Specimen Details/Conditions	
Diameter - mm:	85.18
Height - mm:	195.27
Water Content - %:	7.6
Sample Mass - g:	2801.2
Bulk Density - Mg/m^3:	2.52
Dry Density - Mg/m^3:	2.34
Height Ratio: * Sample does not comply with H:D ratio	2.3
Degree of Saturation - %:	92
Assumed Specific Gravity for Degree of Saturation:	2.90

Test Result	
Load Frame/Machine:	CM1/Controls
Date of test:	16/05/2023
Test Duration - mins:	00:30
Orientation:	Unknown
Stress Rate - MPa/s:	0.63
Strain at Failure - kN:	108.22
Unconfined Compressive Strength - Mpa:	19
Mode of Failure:	Vertical Shear

Remarks: -

UNIAXIAL COMPRESSIVE STRENGTH

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

Borehole Number:	**RBH306**	**Top Depth (m):**	**18.98**
Sample Number:	**-**	**Base Depth (m):**	**19.22**
Sample Type:	**C**	**Sample Date:**	**-**
Storage Condition:	**Sealed**	**Date of Reciept**	**25/04/2023**
Sample Description:	**Reddish brown SANDSTONE**		

Specimen Details/Conditions	
Diameter - mm:	85.21
Height - mm:	195.28
Water Content - %:	9.8
Sample Mass - g:	2780.5
Bulk Density - Mg/m^3:	2.50
Dry Density - Mg/m^3:	2.27
Height Ratio: * Sample does not comply with H:D ratio	2.3
Degree of Saturation - %:	103
Assumed Specific Gravity for Degree of Saturation:	2.90

Test Result	
Load Frame/Machine:	CM1/Controls
Date of test:	16/05/2023
Test Duration - mins:	00:28
Orientation:	Unknown
Stress Rate - MPa/s:	0.65
Strain at Failure - kN:	103.27
Unconfined Compressive Strength - Mpa:	18.1
Mode of Failure:	Vertical Shear

Remarks: -

UNIAXIAL COMPRESSIVE STRENGTH

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

Borehole Number:	**RBH306**	**Top Depth (m):**	**22.14**
Sample Number:	**-**	**Base Depth (m):**	**22.34**
Sample Type:	**C**	**Sample Date:**	**-**
Storage Condition:	**Sealed**	**Date of Reciept**	**25/04/2023**
Sample Description:	**Brown SANDSTONE**		

Specimen Details/Conditions	
Diameter - mm:	85.01
Height - mm:	195.25
Water Content - %:	7.1
Sample Mass - g:	2768.1
Bulk Density - Mg/m^3:	2.50
Dry Density - Mg/m^3:	2.33
Height Ratio: * Sample does not comply with H:D ratio	2.3
Degree of Saturation - %:	84
Assumed Specific Gravity for Degree of Saturation:	2.90

Test Result	
Load Frame/Machine:	CM1/Controls
Date of test:	16/05/2023
Test Duration - mins:	00:27
Orientation:	Unknown
Stress Rate - MPa/s:	0.64
Strain at Failure - kN:	98.97
Unconfined Compressive Strength - Mpa:	17.4
Mode of Failure:	Vertical Shear

Remarks: -

UNIAXIAL COMPRESSIVE STRENGTH

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

Borehole Number:	**RBH307**	**Top Depth (m):**	**18.57**
Sample Number:	**-**	**Base Depth (m):**	**18.83**
Sample Type:	**C**	**Sample Date:**	**-**
Storage Condition:	**Sealed**	**Date of Reciept**	**25/04/2023**
Sample Description:	**Brown MUDSTONE**		

Specimen Details/Conditions	
Diameter - mm:	85.02
Height - mm:	195.18
Water Content - %:	8.9
Sample Mass - g:	2689.2
Bulk Density - Mg/m^3:	2.43
Dry Density - Mg/m^3:	2.23
Height Ratio: * Sample does not comply with H:D ratio	2.3
Degree of Saturation - %:	86
Assumed Specific Gravity for Degree of Saturation:	2.90

Test Result	
Load Frame/Machine:	CM1/Controls
Date of test:	16/05/2023
Test Duration - mins:	00:18
Orientation:	Unknown
Stress Rate - MPa/s:	0.60
Strain at Failure - kN:	61.27
Unconfined Compressive Strength - Mpa:	10.8
Mode of Failure:	Vertical Shear

Remarks: -

UNIAXIAL COMPRESSIVE STRENGTH

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

Borehole Number:	**RBH307**	**Top Depth (m):**	**18.83**
Sample Number:	**-**	**Base Depth (m):**	**19.04**
Sample Type:	**C**	**Sample Date:**	**-**
Storage Condition:	**Sealed**	**Date of Reciept**	**25/04/2023**

Sample Description: **Brown laminated MUDSTONE/SANDSTONE**

Specimen Details/Conditions	
Diameter - mm:	85.17
Height - mm:	195.21
Water Content - %:	8.7
Sample Mass - g:	3101.6
Bulk Density - Mg/m^3:	2.79
Dry Density - Mg/m^3:	2.57
Height Ratio: * Sample does not comply with H:D ratio	2.3
Degree of Saturation - %:	193
Assumed Specific Gravity for Degree of Saturation:	2.90

Test Result	
Load Frame/Machine:	CM1/Controls
Date of test:	16/05/2023
Test Duration - mins:	00:29
Orientation:	Unknown
Stress Rate - MPa/s:	0.71
Strain at Failure - kN:	118.00
Unconfined Compressive Strength - Mpa:	20.7
Mode of Failure:	Vertical Shear

Remarks: -

LABORATORY REPORT

Contract Number: PSL23/8417

Report Date: 20 October 2023

Client's Reference: 4328

Client Name: RoC Consulting
Spring Lodge, 172 Chester Road
Helsby
Cheshire
WA6 0AR

For the attention of: Reece McGuinness

Contract Title: Plot NT03 Mound

Date Received: 3/10/2023
Date Commenced: 3/10/2023
Date Completed: 20/10/2023

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 (Assistant Laboratory Manager)
S Eyre (Senior Technician)
T Watkins (Senior Technician)

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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Description of Sample
RBH401		B	0.20	1.00	Dark brown TOPSOIL.
RBH401		D	6.50	-	Brown very gravelly very sandy CLAY.
RBH401		D	8.00	-	Brown gravelly sandy CLAY.
RBH401		B	12.00	13.20	Brown very sandy silty GRAVEL with cobbles.
RBH402		D	1.50	-	Brown very gravelly sandy CLAY.
RBH402		B	5.30	-	Brown slightly gravelly very sandy CLAY.
RBH402		B	10.00	-	Brown slightly gravelly very sandy CLAY.
RBH402		B	10.50	12.00	Brown gravelly very clayey SAND.
RBH403		B	3.50	5.30	Brown TOPSOIL.
RBH403		D	6.00	-	Brown very gravelly very sandy CLAY.
RBH403		B	17.50	-	Brown slightly gravelly very sandy CLAY.

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plot NT03 Mound

Contract No:

PSL23/8417

Client Ref:

4328

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
RBH401		D	6.50		23			34	17	17	75	Low Plasticity CL
RBH401		D	8.00		16			40	20	20	90	Intermediate Plasticity CI
RBH402		D	1.50		26			36	18	18	65	Intermediate Plasticity CI
RBH403		D	6.00		17			32	16	16	50	Low Plasticity CL

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plot NT03 Mound

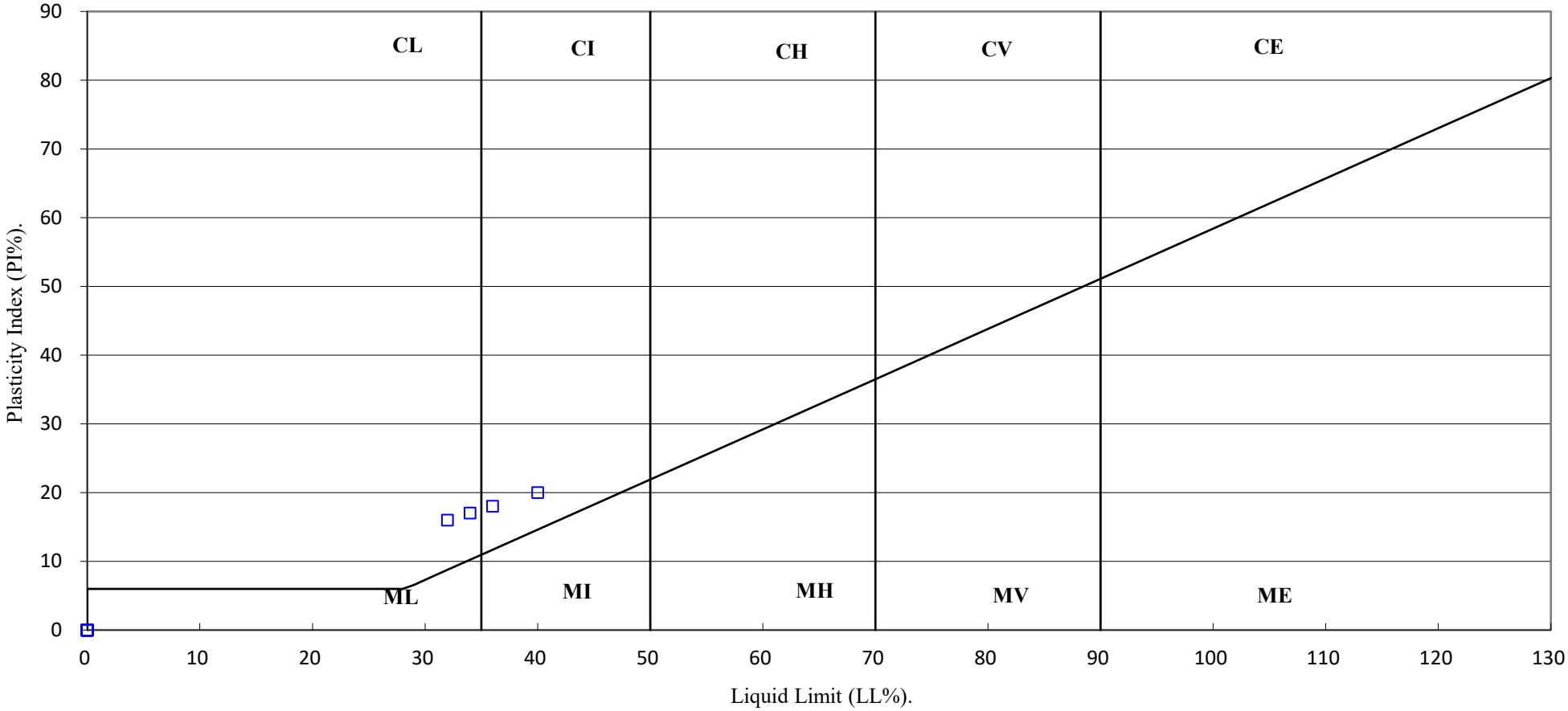
Contract No:

PSL23/8417

Client Ref:

4328

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043 / PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY	**Plot NT03 Mound**	**Contract No:**
		PSL23/8417
		Client Ref:
		4328

PARTICLE SIZE DISTRIBUTION TEST

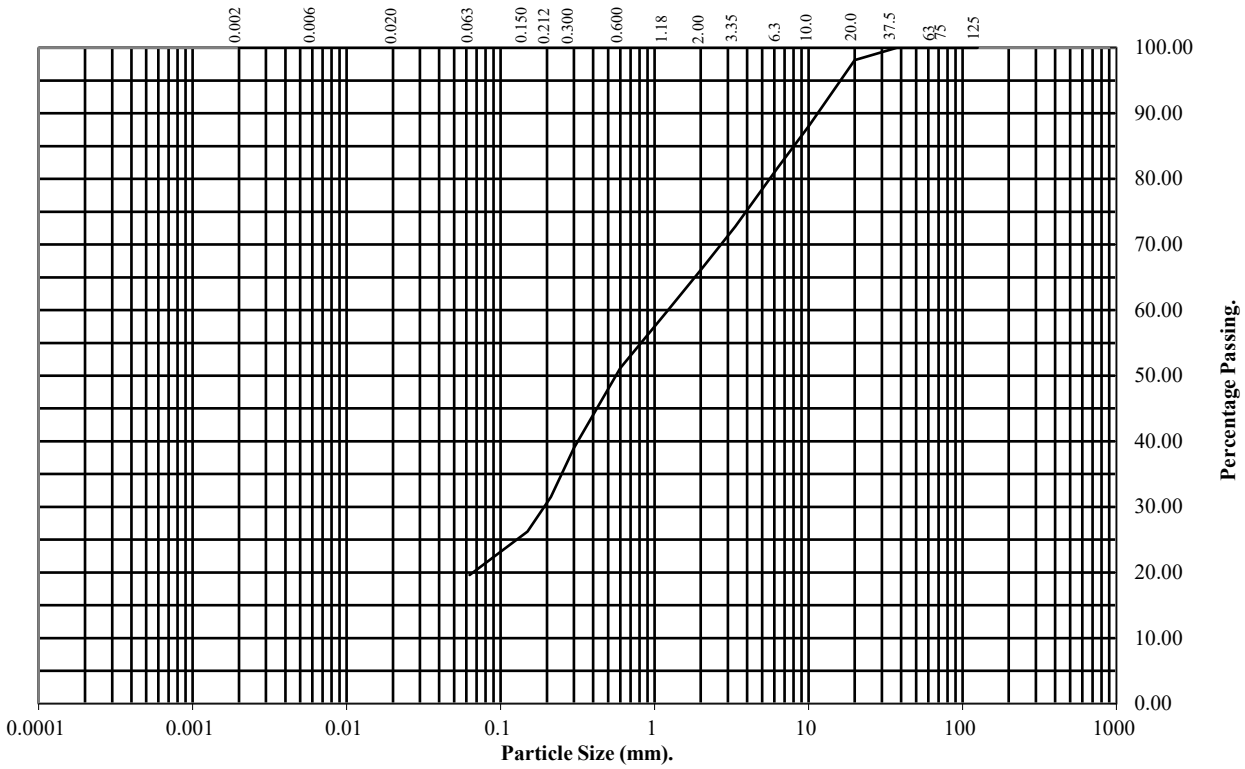
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: RBH401 **Top Depth (m):** 0.20

Sample Number: **Base Depth(m):** 1.00

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	98
10	88
6.3	82
3.35	73
2	66
1.18	60
0.6	51
0.3	39
0.212	32
0.15	26
0.063	20

Soil Fraction	Total Percentage
Cobbles	0
Gravel	34
Sand	46
Silt/Clay	20

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

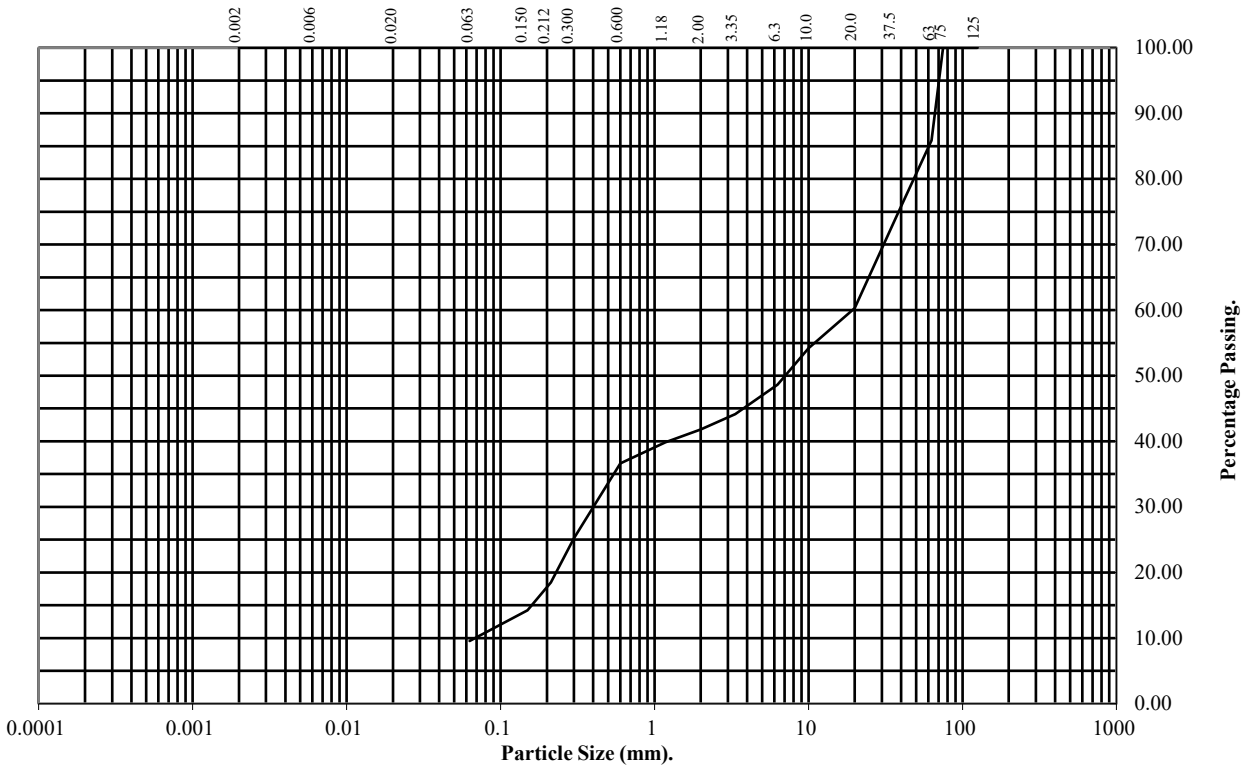
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: RBH401 **Top Depth (m):** 12.00

Sample Number: **Base Depth(m):** 13.20

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	86
37.5	74
20	60
10	54
6.3	49
3.35	44
2	42
1.18	40
0.6	37
0.3	25
0.212	18
0.15	14
0.063	10

Soil Fraction	Total Percentage
Cobbles	14
Gravel	44
Sand	32
Silt/Clay	10

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

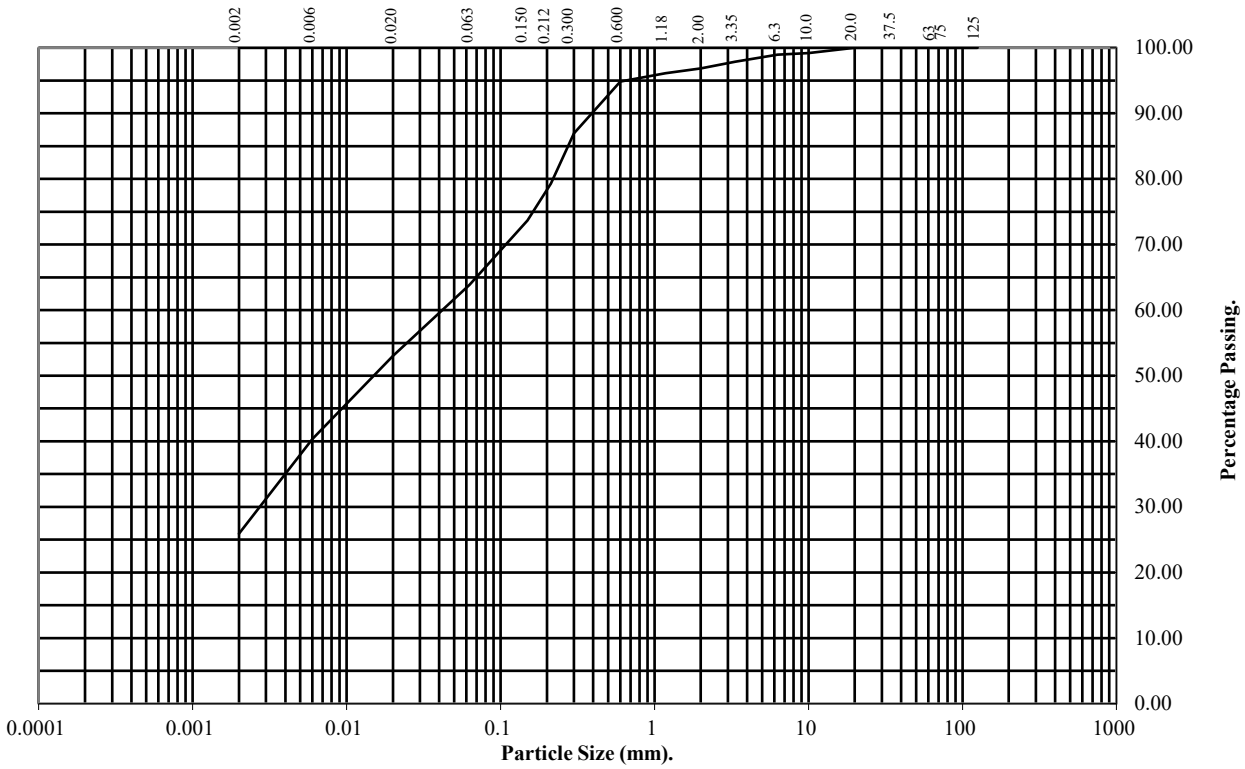
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: RBH402 **Top Depth (m):** 5.30

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	99
3.35	98
2	97
1.18	96
0.6	95
0.3	87
0.212	79
0.15	74
0.063	64

Particle Diameter	Percentage Passing
0.02	53
0.006	40
0.002	26

Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	33
Silt	38
Clay	26

Remarks:
See Summary of Soil Descriptions

UKAS TESTING 4043

PSL PROFESSIONAL SOILS LABORATORY A PHENNA GROUP COMPANY

Plot NT03 Mound

Contract No: PSL23/8417

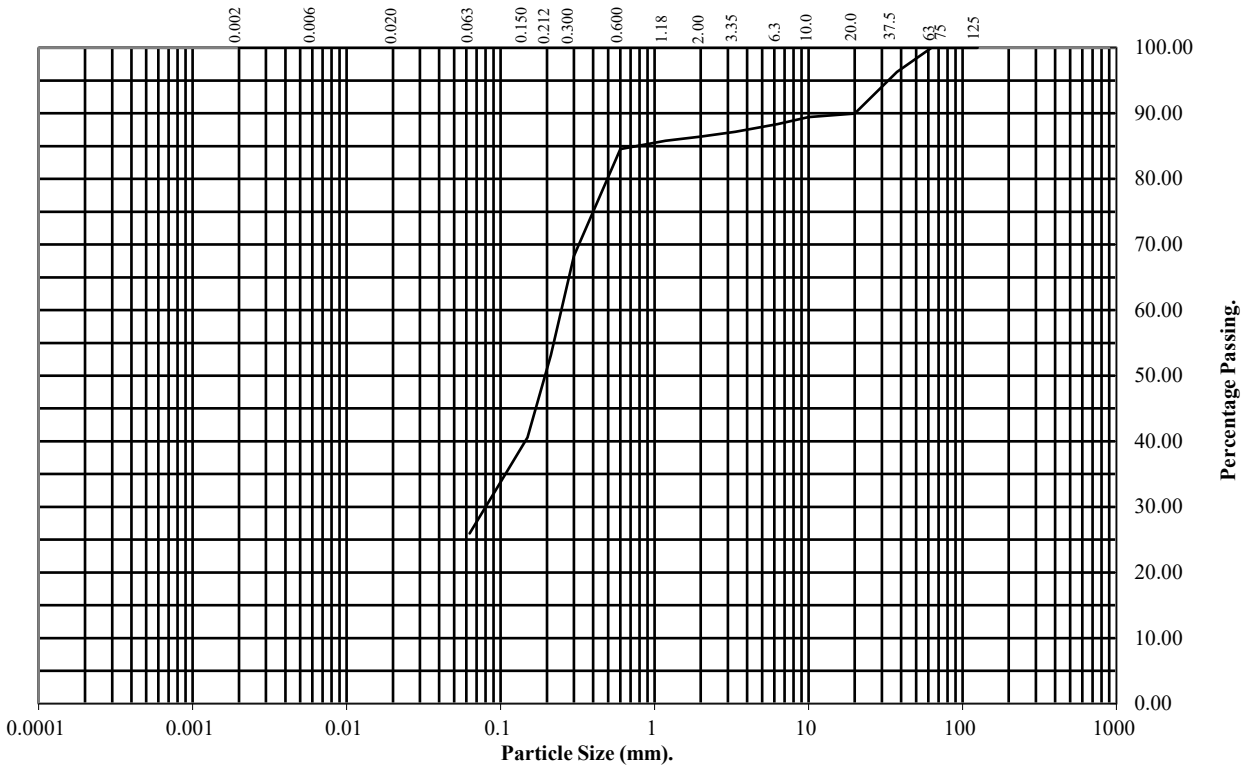
Client Ref: 4328

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number:	**RBH402**	**Top Depth (m):**	**10.50**
Sample Number:		**Base Depth(m):**	**12.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	96
20	90
10	89
6.3	88
3.35	87
2	86
1.18	86
0.6	85
0.3	68
0.212	53
0.15	41
0.063	26

Soil Fraction	Total Percentage
Cobbles	0
Gravel	14
Sand	60
Silt/Clay	26

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

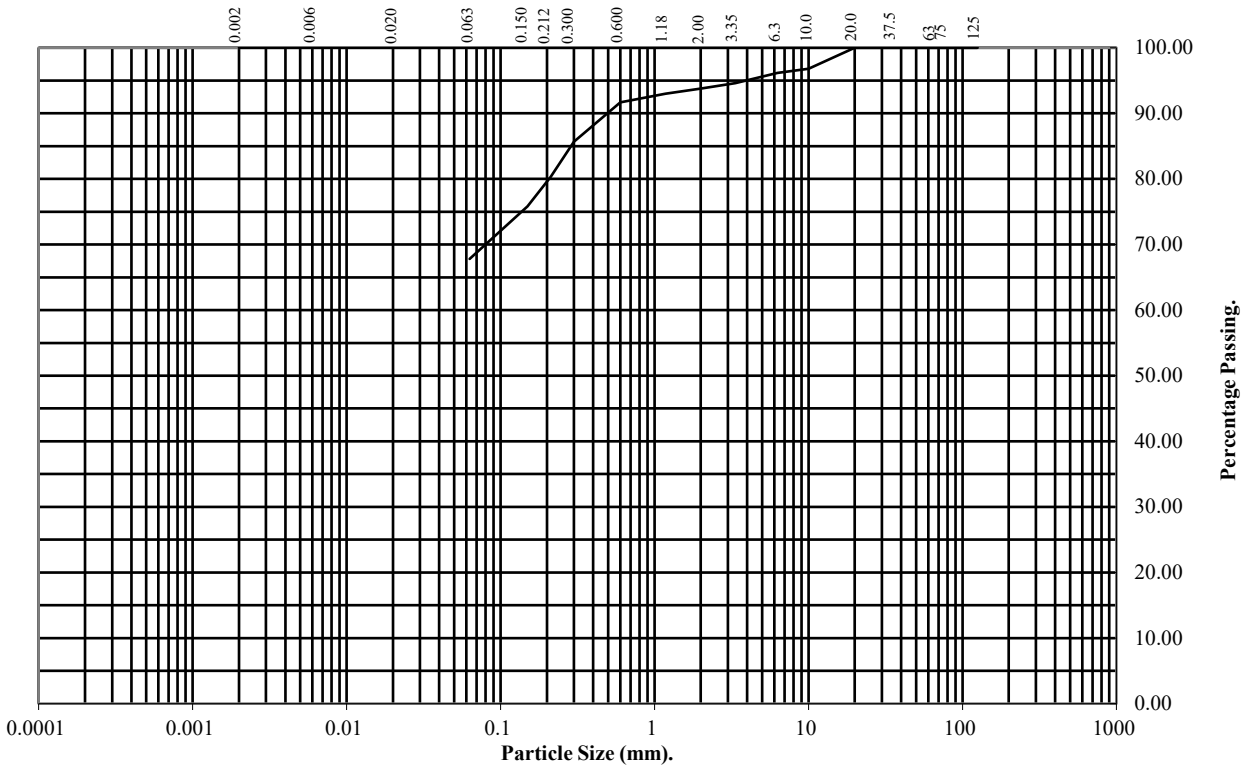
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: RBH402 **Top Depth (m):** 10.00

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	97
6.3	96
3.35	95
2	94
1.18	93
0.6	92
0.3	86
0.212	80
0.15	76
0.063	68

Soil Fraction	Total Percentage
Cobbles	0
Gravel	6
Sand	26
Silt/Clay	68

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

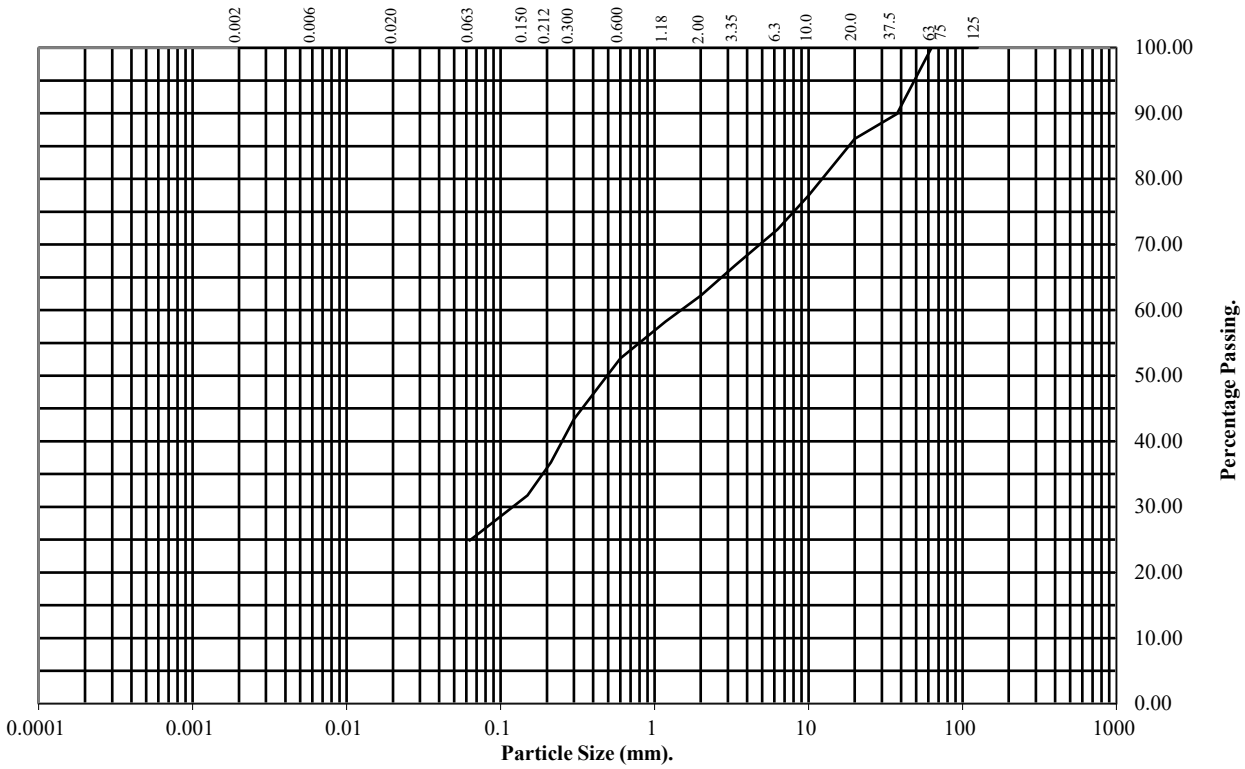
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: RBH403 **Top Depth (m):** 3.50

Sample Number: **Base Depth(m):** 5.30

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	90
20	86
10	77
6.3	72
3.35	67
2	62
1.18	58
0.6	53
0.3	43
0.212	37
0.15	32
0.063	25

Soil Fraction	Total Percentage
Cobbles	0
Gravel	38
Sand	37
Silt/Clay	25

Remarks:
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

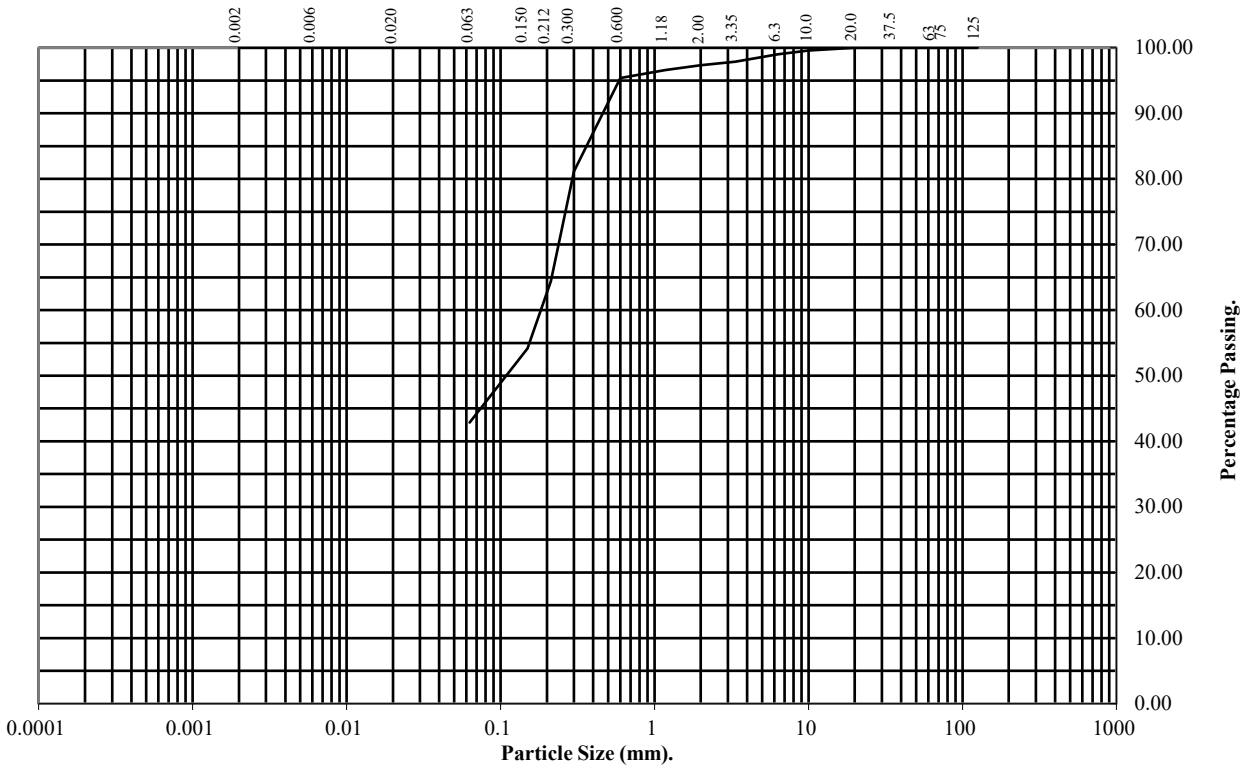
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: RBH403 **Top Depth (m):** 17.50

Sample Number: **Base Depth(m):**

Sample Type: B



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	99
3.35	98
2	97
1.18	97
0.6	95
0.3	81
0.212	64
0.15	54
0.063	43

Soil Fraction	Total Percentage
Cobbles	0
Gravel	3
Sand	54
Silt/Clay	43

Remarks:
See Summary of Soil Descriptions

UNIAXIAL COMPRESSIVE STRENGTH

ISRM Suggested Methods - Rock Characterization Testing and Monitoring 1974 - 2006

Borehole Number:	**RBH401**	**Top Depth (m):**	**19.45**
Sample Number:	**-**	**Base Depth (m):**	**20.21**
Sample Type:	**C**	**Sample Date:**	**-**
Storage Condition:	**-**	**Date of Receipt**	**-**
Sample Description:	**-**		

Specimen Details/Conditions	
Diameter - mm:	90.21
Height - mm:	210.06
Water Content - %:	16.1
Sample Mass - g:	3032.6
Bulk Density - Mg/m^3:	2.26
Dry Density - Mg/m^3:	1.95
Height Ratio: * Sample does not comply with H:D ratio	2.3
Degree of Saturation - %:	95
Assumed Specific Gravity for Degree of Saturation:	2.90

Test Result	
Load Frame/Machine:	CM1/Controls
Date of test:	13/10/2023
Test Duration - mins:	00:17
Orientation:	Unknown
Stress Rate - MPa/s:	0.07
Strain at Failure - kN:	7.11
Unconfined Compressive Strength - Mpa:	1.11
Mode of Failure:	Vertical Shear

Remarks: -

Client emailed 13.10.23

Test Amendment Notice

Date:	13-10-23
PSL Contract Reference:	PSL23/8417
Contract Title:	P106 NT03
Engineer/Client Details:	Reece McGuiness
Sample Details:	RBH403 19M Core
Testing required:	UCS

Details of Unsuitability

The above sample cannot be performed due to the following reasons:

1 The Sample has not been received ✓

2 There is insufficient material for the required testing:

Sample Mass received (g) .....

Sample Mass required (g) .....

3 The sample has been previsouly tested

4 The sample has been misplaced in the laboratory

5 The sample is unsuitable for testing because .....

.....

.....

Please advise action required:

1 Perform the testing on the following sample .....

2 Combine samples has follows for testing: .....

3 Perform the following alternative testing: .....

4 Perform a non standard test:

5 Take no further action

6 Undertake the following instructions: .....

.....

.....

Signed ..... Date .....

(Project Engineer)

PSL PROFESSIONAL SOILS LABORATORY A PHOENIX GROUP COMPANY

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX E – GROUND GAS / WATER MONITORING RESULTS

ROC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	25/08/2022	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GFM435

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Scattered Cloud	Scattered Cloud	Clear
Barometric Pressure Trend:	Rising	Rising	Steady

Surface Ground Conditions:	Dry

VISIT ONE	**Start**	**Finish**	
Time:	0900	**Time:**	1600
Barometric Pressure:	1015	**Barometric Pressure:**	1016
Background Oxygen:	20.9	**Background Oxygen:**	20.7

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS204	**0**	**0**	**13.4**	**3.2**	**<<<**	**0/0**	**0**	**0**	**13.4**	**3.2**	**<<<**	**0/0**	**Dry**	**1.51**		
LK WS105B	**0**	**0**	**4.6**	**14.4**	**<<<**	**0/0**	**0**	**0**	**4.6**	**14.4**	**<<<**	**0/0**	**Dry**	**2.80**		
WS202	**0**	**0**	**8**	**11.5**	**<<<**	**0/0**	**0**	**0**	**8**	**11.5**	**<<<**	**0**	**Dry**	**1.68**		
WS203	**0**	**0**	**2.9**	**15.5**	**<<<**	**0/0**	**0**	**0**	**2.9**	**15.5**	**<<<**	**0**	**Dry**	**0.66**		

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	27/09/2022	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GFM435

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast	Overcast	Overcast
Barometric Pressure Trend:	Falling	Rising	Falling

Surface Ground Conditions:	Dry

VISIT TWO	**Start**	**Finish**	
Time:	1300	**Time:**	1600.00
Barometric Pressure:	992	**Barometric Pressure:**	992
Background Oxygen:	20.7	**Background Oxygen:**	20.3

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS209	**0**	**0**	**2.4**	**17.7**	**<<<**	**0/0**	**0**	**0**	**2.4**	**17.7**	**<<<**	**0/0**	**Dry**	**1.55**	**N/A**	
WS208	**0**	**0**	**2.2**	**18**	**<<<**	**0/0**	**0**	**0**	**2.2**	**18**	**<<<**	**0/0**		**0.90**		
WS213	**0**	**0**	**1.9**	**19.1**	**<<<**	**0/0**	**0**	**0**	**1.9**	**19.1**	**<<<**	**0/0**		**0.90**		
WS211	**0**	**0**	**4.4**	**15.1**	**<<<**	**0/0**	**0**	**0**	**4.4**	**15.1**	**<<<**	**0/0**		**1.82**		
LK WS103	**0**	**0**	**8.9**	**3**	**<<<**	**0/0**	**0**	**0**	**8.9**	**3**	**<<<**	**0/0**		**2.96**		
WS204	**0**	**0**	**11.5**	**2.8**	**<<<**	**0/0**	**0**	**0**	**11.5**	**2.8**	**<<<**	**0/0**		**1.51**		
WS202	**0**	**0**	**8.8**	**11.3**	**<<<**	**0/0**	**0**	**0**	**8.8**	**11.3**	**<<<**	**0/0**		**1.68**		
WS203	**0**	**0**	**3.1**	**14.6**	**<<<**	**0/0**	**0**	**0**	**3.1**	**14.6**	**<<<**	**0/0**		**0.66**		
LK WS105B	**0**	**0**	**6.9**	**11.3**	**<<<**	**0/0**	**0**	**0**	**6.9**	**11.3**	**<<<**	**0/0**		**2.80**		
LK WS201	**0**	**0**	**4.8**	**14**	**<<<**	**0/0**	**0**	**0**	**4.8**	**14**	**<<<**	**0/0**		**3.34**		

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	04/10/2022	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GFM435

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast / Rain	Overcast	Rain
Barometric Pressure Trend:	Rising	Falling	Falling
Surface Ground Conditions:	Wet		

VISIT THREE	**Start**	**Finish**	
Time:	1230	**Time:**	1610
Barometric Pressure:	1007	**Barometric Pressure:**	1006
Background Oxygen:	20.7	**Background Oxygen:**	20.5

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS209	**0**	**0**	**2.2**	**12.8**	**<<<**	**0/0**	**0**	**0**	**2.2**	**12.8**	**<<<**	**0/0**		**1.55**		
WS208	**0**	**0**	**1.9**	**18.5**	**<<<**	**0/0**	**0**	**0**	**1.9**	**18.5**	**<<<**	**0/0**		**0.90**		
WS213	**0**	**0**	**2.1**	**18.6**	**<<<**	**0/0**	**0**	**0**	**2.1**	**18.6**	**<<<**	**0/0**		**0.90**		
WS211	**0**	**0**	**0.7**	**2**	**<<<**	**0/0**	**0**	**0**	**0.7**	**2**	**<<<**	**0/0**		**1.82**		
LK WS103	**0**	**0**	**8.3**	**4.5**	**<<<**	**0/0**	**0**	**0**	**8.3**	**4.5**	**<<<**	**0/0**		**2.96**		
WS204	**0**	**0**	**11.4**	**3.7**	**<<<**	**0/0**	**0**	**0**	**11.4**	**3.7**	**<<<**	**0/0**	**Dry**	**1.51**	**N/A**	
WS202	**0**	**0**	**8**	**11.7**	**<<<**	**0/0**	**0**	**0**	**8**	**11.7**	**<<<**	**0/0**		**1.68**		
WS203	**0**	**0**	**3.3**	**15.1**	**<<<**	**0/0**	**0**	**0**	**3.3**	**15.1**	**<<<**	**0/0**		**0.66**		
LK WS105B	**0**	**0**	**5.8**	**12.6**	**<<<**	**0/0**	**0**	**0**	**5.8**	**12.6**	**<<<**	**0/0**		**2.80**		
LK WS201	**3.3**	**0**	**4.9**	**13.7**	**<<<**	**0/0**	**3.3**	**0**	**4.9**	**13.7**	**<<<**	**0/0**		**3.34**		

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	14/10/2022	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GFM435

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Raining	Cloudy	Raining
Barometric Pressure Trend:	Falling	Falling	Falling
Surface Ground Conditions:	Wet		

VISIT FOUR	**Start**	**Finish**	
Time:	1335	**Time:**	1451
Barometric Pressure:	1002	**Barometric Pressure:**	1000
Background Oxygen:	20.7	**Background Oxygen:**	20.5

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS209	**0**	**0**	**1.8**	**17.8**	**<<<**	**0/0**	**0**	**0**	**1.8**	**17.8**	**<<<**	**0/0**		**1.55**		
WS208	**0**	**0**	**1.8**	**17.3**	**<<<**	**0/0**	**0**	**0**	**1.8**	**17.3**	**<<<**	**0/0**		**0.90**		
WS213	**0**	**0**	**2.3**	**17.2**	**<<<**	**0/0**	**0**	**0**	**2.3**	**17.2**	**<<<**	**0/0**		**0.90**		
WS211	**0**	**0**	**1.1**	**19**	**<<<**	**0/0**	**0**	**0**	**1.1**	**19**	**<<<**	**0/0**		**1.82**		
LK WS103	**0**	**0**	**7.5**	**4.1**	**<<<**	**0/0**	**0**	**0**	**7.5**	**4.1**	**<<<**	**0/0**		**2.96**		
WS204	**0**	**0**	**9.8**	**6.4**	**<<<**	**0/0**	**0**	**0**	**9.8**	**6.4**	**<<<**	**0/0**	**Dry**	**1.51**	**N/A**	
WS202	**0**	**0**	**8.2**	**11.3**	**<<<**	**0/0**	**0**	**0**	**8.2**	**11.3**	**<<<**	**0/0**		**1.68**		
WS203	**0**	**0**	**3.3**	**14.7**	**<<<**	**0/0**	**0**	**0**	**3.3**	**14.7**	**<<<**	**0/0**		**0.66**		
LK WS105B	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**		**2.80**		**Could Not Access**
LK WS201	**0**	**0**	**4.6**	**14.9**	**<<<**	**0/0**	**0**	**0**	**4.6**	**14.9**	**<<<**	**0/0**		**3.34**		

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	25/10/2022	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GFM435

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast/Rain	Overcast	Overcast
Barometric Pressure Trend:	Falling	Rising	Fluctuating

Surface Ground Conditions:	Dry/damp

VISIT FIVE	**Start**	**Finish**	
Time:	1510	**Time:**	1610.00
Barometric Pressure:	1004	**Barometric Pressure:**	1003
Background Oxygen:	20.8	**Background Oxygen:**	20.5

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS209	0	0	1.6	18.5	<<<	0/0	0	0	1.6	18.5	<<<	0/0		1.55		
WS208	0	0	1.6	18.5	<<<	0/0	0	0	1.6	18.5	<<<	0/0		0.90		
WS213	0	0	2.6	16.6	<<<	0/0	0	0	2.6	16.6	<<<	0/0		0.90		
WS211	0	0	0.2	20.5	<<<	0/0	0	0	0.2	20.5	<<<	0/0		1.82		
LK WS103	0	0	7.2	0.6	<<<	0/0	0	0	7.2	0.6	<<<	0/0		2.96		
WS204	0	0	8.9	5.9	<<<	0/0	0	0	8.9	5.9	<<<	0/0	**Dry**	1.51	**N/A**	
WS202	0	0	4.8	13.4	<<<	0/0	0	0	4.8	13.4	<<<	0/0		1.68		
WS203	0	0	1.8	18.1	<<<	0/0	0	0	1.8	18.1	<<<	0/0		0.66		
LK WS105B	-	-	-	-	-	-	-	-	-	-	-	-		2.80		**Could not access**
LK WS201	0	0	1.7	17.8	<<<	0/0	0	0	1.7	17.8	<<<	0/0		3.34		

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	28/10/2022	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GFM435

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast / rain	Overcast / rain	Overcast
Barometric Pressure Trend:	Rising	Fluctuating	Rising
Surface Ground Conditions:			

VISIT SIX	**Start**	**Finish**	
Time:	1240	**Time:**	1400.00
Barometric Pressure:	1008	**Barometric Pressure:**	1008
Background Oxygen:	20.8	**Background Oxygen:**	20.7

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS209	**0**	**0**	**1.3**	**18.9**	**<<<**	**0/0**	**0**	**0**	**1.3**	**18.9**	**<<<**	**0/0**		**1.55**		
WS208	**0**	**0**	**1.6**	**18.6**	**<<<**	**0/0**	**0**	**0**	**1.6**	**18.6**	**<<<**	**0/0**		**0.90**		
WS213	**0**	**0**	**2.5**	**16.9**	**<<<**	**0/0**	**0**	**0**	**2.5**	**16.9**	**<<<**	**0/0**		**0.90**		
WS211	**0**	**0**	**0.3**	**20.4**	**<<<**	**0/0**	**0**	**0**	**0.3**	**20.4**	**<<<**	**0/0**		**1.82**		
LK WS103	**0**	**0**	**7**	**1.9**	**<<<**	**0/0**	**0**	**0**	**7**	**1.9**	**<<<**	**0/0**		**2.96**		
WS204	**0**	**0**	**8.5**	**5.7**	**<<<**	**0/0**	**0**	**0**	**8.5**	**5.7**	**<<<**	**0/0**	**Dry**	**1.51**	**N/A**	
WS202	**0**	**0**	**4.1**	**14.5**	**<<<**	**0/0**	**0**	**0**	**4.1**	**14.5**	**<<<**	**0/0**		**1.68**		
WS203	**0**	**0**	**0.5**	**19.7**	**<<<**	**0/0**	**0**	**0**	**0.5**	**19.7**	**<<<**	**0/0**		**0.66**		
LK WS105B	**0**	**0**	**3.2**	**15**	**<<<**	**0/0**	**0**	**0**	**3.2**	**15**	**<<<**	**0/0**		**2.80**		
LK WS201	**0**	**0**	**1.3**	**18.6**	**<<<**	**0/0**	**0**	**0**	**1.3**	**18.6**	**<<<**	**0/0**		**3.34**		

Comments: <<< = Below limit of detection

ROC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	28/04/2023	**Client:**	Far East Consortium
	Engineer:	PN	**Equipment:**	GA5000

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast	Overcast	Overcast
Barometric Pressure Trend:	Falling	Rising	Fluctuating
Surface Ground Conditions:			

VISIT ONE	**Start**	**Finish**	
Time:	0852	**Time:**	944.00
Barometric Pressure:	1007	**Barometric Pressure:**	1007
Background Oxygen:	20.8	**Background Oxygen:**	20.7

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS311	**0**	**0**	**0.2**	**20**	**0**	**1/2**	**0**	**0**	**0.2**	**21.1**	**0**	**1/2**	**0.49**	**1.62**	**1.13**	
WS310	**0**	**0**	**2.5**	**18.1**	**0**	**0/0**	**0**	**0**	**2.5**	**18.1**	**0**	**0/0**	**Dry**	**1.05**	**-**	
WS312	**0**	**0**	**0.4**	**18.5**	**0**	**0/4**	**0**	**0**	**0.4**	**18.5**	**0**	**0/1**	**Dry**	**1.10**	**-**	

Comments: <<< = Below limit of detection

ROC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	05/05/2023	**Client:**	Far East Consortium
	Engineer:	AS	**Equipment:**	GA5000

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast	Overcast	Overcast
Barometric Pressure Trend:	Steady	Steady	Steady
Surface Ground Conditions:			

VISIT TWO	**Start**	**Finish**	
Time:	1028	**Time:**	1056.00
Barometric Pressure:	1024	**Barometric Pressure:**	1024
Background Oxygen:	20.8	**Background Oxygen:**	20.8

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS310	**0.1**	**0**	**2.8**	**16.9**	**0**	**0/0**	**0.1**	**0**	**2.8**	**16.9**	**0**	**0/0**	**Dry**	**1.03**	**-**	
WS312	**0**	**0**	**1.3**	**1.2**	**0**	**1/1**	**0**	**0**	**1.3**	**1.2**	**0**	**1/0**	**Dry**	**1.09**	**-**	
WS311	**0**	**0**	**0.2**	**20.1**	**0**	**0/2**	**0**	**0**	**0.2**	**20.1**	**0**	**0/2**	**0.50**	**1.61**	**1.11**	

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	11/05/2023	**Client:**	Far East Consortium
	Engineer:	IB	**Equipment:**	GA5000

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast	Overcast	Dry
Barometric Pressure Trend:	Steady	Steady	Steady
Surface Ground Conditions:			

VISIT THREE	**Start**	**Finish**	
Time:	0945	**Time:**	1019.00
Barometric Pressure:	1011	**Barometric Pressure:**	1013
Background Oxygen:	20.7	**Background Oxygen:**	20.7

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS310	**0**	**0**	**3.5**	**16.3**	**0**	**0/0**	**0**	**0**	**3.5**	**16.3**	**0**	**0/0**	**Dry**	**1.08**	**-**	
WS312	**0**	**0.2**	**1.8**	**0**	**4**	**0/2**	**0**	**0.2**	**1.8**	**0**	**4**	**0/1**	**1.10**	**1.12**	**0.02**	
WS311	**0**	**0.1**	**0.7**	**19.5**	**2**	**0/1**	**0.8**	**0**	**0.7**	**19.5**	**0**	**0/1**	**0.47**	**1.60**	**1.13**	

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	06/07/2023	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GFM435

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast	Overcast	Dry
Barometric Pressure Trend:	Steady	Steady	Steady

Surface Ground Conditions:	Dry

VISIT FOUR	**Start**		**Finish**
Time:	0930	**Time:**	1000
Barometric Pressure:	1010	**Barometric Pressure:**	1010
Background Oxygen:	21.0	**Background Oxygen:**	21.0

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS310	**0**	**0**	**6.5**	**8.6**	**0**	**0/0**	**0**	**0**	**6.5**	**8.6**	**0**	**0/0**	**Dry**	**1.08**	**-**	
WS312	**0**	**0**	**0.1**	**2.3**	**0**	**0/0**	**0/0**	**0**	**0.1**	**2.3**	**0**	**0/0**	**Dry**	**1.12**	**-**	
WS311	**0**	**0**	**6.7**	**0.1**	**0**	**0/0**	**0**	**0**	**6.7**	**0.1**	**0**	**0/0**	**0.53**	**1.60**	**1.07**	

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	31/07/2023	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GA5000

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast	Overcast	Dry
Barometric Pressure Trend:	Steady	Steady	Steady
Surface Ground Conditions:			

VISIT FIVE	**Start**	**Finish**	
Time:	0800	**Time:**	1146
Barometric Pressure:	998	**Barometric Pressure:**	997
Background Oxygen:	20.7	**Background Oxygen:**	20.8

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS310	**0**	**0**	**7.8**	**5.7**	**0**	**0/0**	**0**	**0**	**7.8**	**5.7**	**0**	**0/0**	**Dry**	**1.08**	**-**	
WS312	**0**	**0**	**1**	**13.9**	**0**	**1/2**	**0**	**0**	**0.9**	**13.9**	**0**	**1/0**	**0.59**	**1.12**	**0.54**	
WS311	**0**	**0**	**4.5**	**11.7**	**0**	**0/0**	**0**	**0**	**4.1**	**12**	**0**	**0/0**	**0.45**	**1.60**	**1.15**	

Comments: <<< = Below limit of detection

RoC CONSULTING **Civil, Structural & Environmental Engineers** Commercial Wharf, 6 Commercial St, MCR, M15 4PZ	**Job No:**	4328	**Site:**	Plots NT02-NT04
	Date:	31/08/2023	**Client:**	Far East Consortium
	Engineer:	RM	**Equipment:**	GA5000

	2 Days Prior	1 Day Prior	On day of Monitoring
Weather Conditions:	Overcast	Overcast	Dry
Barometric Pressure Trend:	Steady	Steady	Steady
Surface Ground Conditions:			

VISIT SIX	**Start**	**Finish**	
Time:	1400	**Time:**	1430
Barometric Pressure:	1005	**Barometric Pressure:**	1005
Background Oxygen:	20.9	**Background Oxygen:**	20.9

Monitoring Point	**Gas Concentration**												**Groundwater**			
		Peak						**Steady**								
BH N°	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Flow Rate (l/h)**	**CH_4 %**	**CO_2 %**	**O_2 %**	**LEL %**	**H2S/CO (ppm)**	**Depth to Water**	**Depth to Base**	**Head of water**	**Remarks**
WS310	**0**	**0**	**8.3**	**8.1**	**<**	**0/2**	**0**	**0**	**8.3**	**8.1**	**<**	**0/1**	**Dry**	**1.08**	**-**	
WS312	**0**	**0**	**3.5**	**0.4**	**<**	**0/1**	**0**	**0**	**3.5**	**0.4**	**<**	**0/1**	**Dry**	**1.12**	**-**	
WS311	**0**	**0**	**2.4**	**17.2**	**<**	**0/1**	**0**	**0**	**2.4**	**17.2**	**<**	**0/1**	**0.40**	**1.60**	**1.20**	**Monitor sucked up water**

Comments: <<< = Below limit of detection

BH I.D.	Easting	Northing	Ground Level (mAOD)	Drilled Depth (mbgl)	Drilled Depth (mOD)	Response zone from (mbgl)	Response zone to (mbgl)	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone	Date	Time	Height of measuring point (magl / mbgl)	Height of measuing point (mOD)	DTW from measuring point (mbgl)	DTW from ground level (mbgl)	Hydraulic Head (mOD)
RBH505 P1	384587.5093	399448.8265	31.41	14.50	16.91	4.50	11.80	26.91	19.61	CF	01/12/2023	-	-0.08	31.33	4.35	4.43	26.98
RBH505 P2	384587.5093	399448.8265	31.41	14.50	16.91	13.00	14.50	18.41	16.91	MM	01/12/2023	-	-0.06	31.35	4.36	4.42	26.99
RBH503	384615.9274	399444.165	31.65	12.50	19.15	5.00	10.00	26.65	21.65	CF	01/12/2023	-	-0.09	31.56	4.73	4.82	26.83
RBH501	384638.9862	399388.867	33.59	16.00	17.59	4.50	15.00	29.09	18.59	CF	01/12/2023	-	-0.14	33.45	6.27	6.41	27.18
RBH301	384576.6815	399444.2723	31.41	15.00	16.41	4.00	10.00	27.41	21.41	CF	01/12/2023	-	-0.1	31.31	4.46	4.56	26.85
RBH502 P1	384587.5093	399448.8265	33.59	20.30	13.29	5.50	18.30	28.09	15.29	CF	01/12/2023	-	-0.05	33.54	6.13	6.18	27.41
RBH502 P2	384587.5093	399448.8265	33.59	20.30	13.29	19.30	20.30	14.29	13.29	MM	01/12/2023	-	-0.08	33.51	6.58	6.66	26.93
RBH203	384619.3617	399403.8317	33.59	19.5	14.09	10	15	23.59	18.59	CF	01/12/2023	-	-0.14	33.45	6.38	6.52	27.07
RBH202	384638.0452	399446.2626	32.76	25.00	7.76	21.00	25.00	11.76	7.76	MM	01/12/2023	-	-0.2	32.56	5.86	6.06	26.70
RBH303	384615.9274	399444.165	31.65	12.50	19.15	5.00	10.00	26.65	21.65	CF	01/12/2023	-	-0.11	31.54	5.84	5.95	25.70
RBH504	384644.0717	399415.7532	34.04	14.5	19.54	4.5	11.95	29.54	22.09	CF	01/12/2023	-	-0.13	33.91	6.9	7.03	27.01
RBH401	384697.4	399411.32	43.07	20.50	22.57	11.50	16.50	31.57	26.57	RD	01/12/2023	-	-0.18	42.89	15.25	15.43	27.64
RBH403	384717.73	399423.13	43.03	21.00	22.03	11.50	16.50	31.53	26.53	RD	01/12/2023	-	-0.18	42.85	13.77	13.95	29.08
RBH207	384797.8989	399510.7339	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	01/12/2023	-	-0.12	36.05	1.06	1.18	34.99
RBH302	384608.4155	399383.5676	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	01/12/2023	-	-0.1	33.49	6.09	6.19	27.40
RBH502 P1	384587.5093	399448.8265	33.59	20.30	13.29	5.50	18.30	28.09	15.29	CF	20/11/2023	-	-0.07	33.52	5.93	6	27.59
RBH502 P2	384587.5093	399448.8265	33.59	20.30	13.29	19.30	20.30	14.29	13.29	MM	20/11/2023	-	-0.07	33.52	6.61	6.68	26.91
RBH302	384608.4155	399383.5676	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	20/11/2023	-	-0.07	33.52	5.92	5.99	27.60
RBH501	384638.9862	399388.867	33.59	16.00	17.59	4.50	15.00	29.09	18.59	CF	20/11/2023	-	-0.14	33.45	6.25	6.39	27.20
RBH505 P2	384587.5093	399448.8265	31.41	14.50	16.91	13.00	14.50	18.41	16.91	MM	20/11/2023	-	-0.07	31.34	4.27	4.34	27.07
RBH401	384697.4	399411.32	43.07	20.50	22.57	11.50	16.50	31.57	26.57	RD	20/11/2023	-	-0.15	42.92	-	-	-
RBH403	384717.73	399423.13	43.03	21.00	22.03	11.50	16.50	31.53	26.53	RD	20/11/2023	-	-0.18	42.85	13.82	14	29.03
RBH306	384692.0001	399446.8116	33.73	20	13.73	9	11	24.73	22.73	MM	20/11/2023	-	-0.15	33.58	4.52	4.67	29.06
RBH210	384845.1357	399489.0191	41.38	25	16.38	20	25	21.38	16.38	MM	20/11/2023	-	-0.08	41.3	12.33	12.41	28.97
RBH207	384797.8989	399510.7339	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	20/11/2023	-	0.08	36.25	7.72	7.64	28.53
WS311	384712.61	399444.78	35.04	5.00	30.04	0.50	1.50	34.54	33.54	MG	20/11/2023	-	-0.09	34.95	1.02	1.11	33.93
RBH208	384757.4771	399461.3776	42	24.00	18.00	19.00	24.00	23.00	18.00	MM	20/11/2023	-	-0.03	41.97	13.49	13.52	28.48
RBH203	384619.3617	399403.8317	33.59	19.5	14.09	10	15	23.59	18.59	CF	20/11/2023	-	-0.15	33.44	6.33	6.48	27.11
RBH504	384644.0717	399415.7532	34.04	14.5	19.54	4.5	11.95	29.54	22.09	CF	20/11/2023	-	-0.13	33.91	6.85	6.98	27.06
RBH305	384636.0148	399469.2144	32.15	20.00	12.15	5.00	9.00	27.15	23.15	CF	20/11/2023	-	-0.15	32.00	5.25	5.4	26.75
RBH503	384615.9274	399444.165	31.65	12.50	19.15	5.00	10.00	26.65	21.65	CF	20/11/2023	-	-0.09	31.56	4.70	4.79	26.86
RBH505 P1	384587.5093	399448.8265	31.41	14.50	16.91	4.50	11.80	26.91	19.61	CF	20/11/2023	-	-0.06	31.35	4.29	4.35	27.06
WS311	384712.61	399444.78	35.04	5.00	30.04	0.50	1.50	34.54	33.54	MG	13/11/2023	-	-0.09	34.95	0.31	0.40	34.64
RBH401	384697.4	399411.32	43.07	20.50	22.57	11.50	16.50	31.57	26.57	RD	13/11/2023	-	-0.18	42.89	-	-	-
RBH403	384717.73	399423.13	43.03	21.00	22.03	11.50	16.50	31.53	26.53	RD	13/11/2023	-	-0.15	42.88	13.76	13.91	29.12
RBH505 P1	384587.5093	399448.8265	31.41	14.50	16.91	4.50	11.80	26.91	19.61	CF	13/11/2023	-	-0.06	31.35	4.26	4.32	27.09
RBH505 P2	384587.5093	399448.8265	31.41	14.50	16.91	13.00	14.50	18.41	16.91	MM	13/11/2023	-	-0.06	31.35	4.45	4.51	26.90
RBH305	384636.0148	399469.2144	32.15	20.00	12.15	5.00	9.00	27.15	23.15	CF	13/11/2023	-	-0.15	32.00	5.25	5.40	26.75
RBH501	384638.9862	399388.867	33.59	16.00	17.59	4.50	15.00	29.09	18.59	CF	13/11/2023	-	-0.15	33.44	6.34	6.49	27.10
RBH502 P2	384587.5093	399448.8265	33.59	20.30	13.29	19.30	20.30	14.29	13.29	MM	13/11/2023	-	-0.08	33.51	6.38	6.46	27.13
RBH502 P1	384587.5093	399448.8265	33.59	20.30	13.29	5.50	18.30	28.09	15.29	CF	13/11/2023	-	-0.07	33.52	5.93	6.00	27.59
RBH503	384615.9274	399444.165	31.65	12.50	19.15	5.00	10.00	26.65	21.65	CF	13/11/2023	-	-0.09	31.56	4.70	4.79	26.87
RBH302	384608.4155	399383.5676	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	13/11/2023	-	-0.09	33.50	5.91	6.00	27.60
RBH203	384619.3617	399403.8317	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	13/11/2023	-	-0.12	33.47	6.27	6.39	27.20
RBH504	384644.0717	399415.7532	34.04	14.50	19.54	4.50	11.95	29.54	22.09	CF	13/11/2023	-	-0.13	33.91	6.88	7.01	27.03
RBH501	384638.9862	399388.867	33.59	16.00	17.59	4.50	15.00	29.09	18.59	CF	06/11/2023	-	-0.14	33.45	6.34	6.48	27.11
RBH503	384615.9274	399444.165	31.65	12.50	19.15	5.00	10.00	26.65	21.65	CF	06/11/2023	-	-0.09	31.56	4.44	4.53	27.12
RBH504	384644.0717	399415.7532	34.04	14.50	19.54	4.50	11.95	29.54	22.09	CF	06/11/2023	-	-0.13	33.91	6.90	7.03	27.01
RBH505 P1	384587.5093	399448.8265	31.41	14.50	16.91	4.50	11.80	26.91	19.61	CF	06/11/2023	-	-0.06	31.35	4.82	4.88	26.53
RBH505 P2	384587.5093	399448.8265	31.41	14.50	16.91	13.00	14.50	18.41	16.91	MM	06/11/2023	-	-0.06	31.35	4.69	4.75	26.66
RBH401	384697.4	399411.32	43.07	20.50	22.57	11.50	16.50	31.57	26.57	RD	06/11/2023	-	-0.15	42.92	-	-	-
RBH403	384717.73	399423.13	43.03	21.00	22.03	11.50	16.50	31.53	26.53	RD	06/11/2023	-	-0.18	42.85	13.92	14.10	28.93
WS311	384712.61	399444.78	35.04	5.00	30.04	0.50	1.50	34.54	33.54	MG	06/11/2023	-	-0.09	34.95	0.32	0.41	34.63
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	31/08/2023	-	-0.15	33.44	6.44	6.59	27.00
LKBH01	384593.48	399443.85	31.41	15.00	16.41	5.00	15.00	26.41	16.41	CF & MM	31/08/2023	-	-0.09	31.32	4.42	4.51	26.90
RBH202	384638.05	399446.26	32.76	25.00	7.76	21.00	25.00	11.76	7.76	MM	31/08/2023	-	-0.21	32.55	6.01	6.22	26.54
RBH305	384636.01	399469.21	32.15	20.00	12.15	5.00	9.00	27.15	23.15	CF	31/08/2023	-	-0.17	31.98	5.39	5.56	26.59
LKBH03	384634.56	399391.59	33.59	20.00	13.59	3.00	20.00	30.59	13.59	CF & MM	31/08/2023	-	-0.07	33.52	6.42	6.49	27.10
RBH303	384640.07	399422.36	33.01	15.00	18.01	5.00	10.00	28.01	23.01	CF	31/08/2023	-	-0.12	32.89	5.91	6.03	26.98
RBH301	384576.68	399444.27	31.41	15.00	16.41	4.00	10.00	27.41	21.41	CF	31/08/2023	-	-0.11	31.30	4.48	4.59	26.82
RBH302	384608.42	399383.57	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	31/08/2023	-	-0.1	33.49	6.16	6.26	27.33
RBH306	384692.00	399446.81	33.73	20.00	13.73	9.00	11.00	24.73	22.73	MM	31/08/2023	-	-0.12	33.61	4.71	4.83	28.90
RBH307	384749.15	399493.27	39.84	24.00	15.84	9.00	20.00	30.84	19.84	MM	31/08/2023	-	-	-	-	-	-
RBH208	384757.48	399461.38	42.00	24.00	18.00	19.00	24.00	23.00	18.00	MM	31/08/2023	-	-0.03	41.97	12.68	12.71	29.29
RBH207	384797.90	399510.73	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	31/08/2023	-	-0.11	36.06	7.80	7.91	28.26
RBH209	384796.49	399492.29	40.46	24.00	16.46	12.00	17.00	28.46	23.46	MM	31/08/2023	-	-	-	-	-	-
RBH210	384845.14	399489.02	41.38	25.00	16.38	20.00	25.00	21.38	16.38	MM	31/08/2023	-	-0.09	41.29	12.36	12.45	28.93
RBH301	384576.68	399444.27	31.41	15.00	16.41	4.00	10.00	27.41	21.41	CF	31/07/2023	-	-0.11	31.30	4.41	4.52	26.89
RBH305	384636.01	399469.21	32.15	20.00	12.15	5.00	9.00	27.15	23.15	CF	31/07/2023	-	-0.17	31.98	5.3	5.47	26.68
RBH202	384638.05	399446.26	32.76	25.00	7.76	21.00	25.00	11.76	7.76	MM	31/07/2023	-	-0.21	32.55	5.82	6.03	26.73
RBH303	384640.07	399422.36	33.01	15.00	18.01	5.00	10.00	28.01	23.01	CF	31/07/2023	-	-0.12	32.89	5.9	6.02	26.99
RBH304	384680.66	399402.07	34.66	9.45	25.21	5.00	9.00	29.66	25.66	RD	31/07/2023	-	-0.11	34.55	6.82	6.93	27.73
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	31/07/2023	-	-0.15	33.44	6.4	6.55	27.04
RBH302	384608.42	399383.57	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	31/07/2023	-	-0.1	33.49	5.94	6.04	27.55
RBH207	384797.90	399510.73	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	31/07/2023	-	-0.11	36.06	12.37	-	#VALUE!
RBH208	384757.48	399461.38	42.00	24.00	18.00	19.00	24.00	23.00	18.00	MM	31/07/2023	-	-0.03	41.97	13.57	13.60	28.40
RBH306	384692.00	399446.81	33.73	20.00	13.73	9.00	11.00	24.73	22.73	MM	31/07/2023	-	-0.12	33.61	4.73	4.85	28.88
RBH301	384576.68	399444.27	31.41	15.00	16.41	4.00	10.00	27.41	21.41	CF	16/06/2023	-	0	31.41	4.81	4.81	26.60
RBH302	384608.42	399383.57	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	16/06/2023	-	0	33.59	6.7	6.7	26.89
RBH303	384640.07	399422.36	33.01	15.00	18.01	5.00	10.00	28.01	23.01	CF	16/06/2023	-	0	33.01	6.26	6.26	26.75
RBH304	384680.66	399402.07	34.66	9.45	25.21	5.00	9.00	29.66	25.66	RD	16/06/2023	-	0	34.66	7.23	7.23	27.43
RBH305	384636.01	399469.21	32.15	20.00	12.15	5.00	9.00	27.15	23.15	CF	16/06/2023	-	0	32.15	5.71	5.71	26.44
RBH306	384692.00	399446.81	33.73	20.00	13.73	9.00	11.00	24.73	22.73	MM	16/06/2023	-	0	33.73	5.1	5.1	28.63

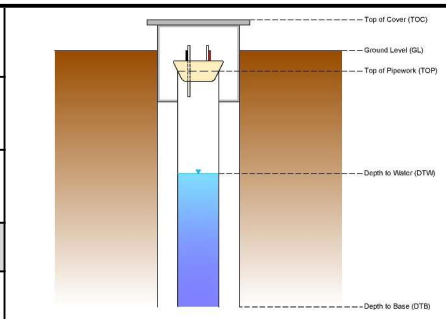
BH I.D.	Easting	Northing	Ground Level (mAOD)	Drilled Depth (mbgl)	Drilled Depth (mOD)	Response zone from (mbgl)	Response zone to (mbgl)	Response zone from (mOD)	Response zone to (mOD)	Lithology at response zone	Date	Time	Height of measuring point (magl / mbgl)	Height of measuing point (mOD)	DTW from measuring point (mbgl)	DTW from ground level (mbgl)	Hydraulic Head (mOD)
RBH307	384749.15	399493.27	39.84	24.00	15.84	9.00	20.00	30.84	19.84	MM	16/06/2023	-	0	39.84	11.65	11.65	28.19
RBH201	384597.08	399455.18	31.40	25.10	6.30	21.00	25.00	10.40	6.40	MM	-	-	-	-	-	-	-
RBH202	384638.05	399446.26	32.76	25.00	7.76	21.00	25.00	11.76	7.76	MM	16/06/2023	-	0	32.76	6.24	6.24	26.52
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	16/06/2023	-	0	33.59	6.83	6.83	26.76
RBH205	384721.68	399517.64	31.38	25.00	6.38	20.00	25.00	11.38	6.38	MM	-	-	-	-	-	-	-
RBH206	384701.70	399491.17	32.00	25.00	7.00	21.00	25.00	11.00	7.00	MM	-	-	-	-	-	-	-
RBH207	384797.90	399510.73	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	16/06/2023	-	0	36.17	7.52	7.52	28.65
RBH208	384757.48	399461.38	42.00	24.00	18.00	19.00	24.00	23.00	18.00	MM	16/06/2023	-	0	42	13.78	13.78	28.22
RBH209	384796.49	399492.29	40.46	24.00	16.46	12.00	17.00	28.46	23.46	MM	-	-	-	-	-	-	-
RBH210	384845.14	399489.02	41.38	25.00	16.38	20.00	25.00	21.38	16.38	MM	16/06/2023	-	0	41.38	12.09	12.09	29.29
LKBH01	384593.48	399443.85	31.41	15.00	16.41	5.00	15.00	26.41	16.41	CF & MM	16/06/2023	-	0	31.41	4.78	4.78	26.63
LKBH03	384634.56	399391.59	33.59	20.00	13.59	3.00	20.00	30.59	13.59	CF & MM	16/06/2023	-	0	33.59	6.76	6.76	26.83
RBH301	384576.68	399444.27	31.41	15.00	16.41	4.00	10.00	27.41	21.41	CF	10/05/2023	-	-0.09	31.32	4.64	4.73	26.68
RBH302	384608.42	399383.57	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	10/05/2023	-	-0.07	33.52	6.48	6.55	27.04
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	10/05/2023	-	-0.14	33.45	6.6	6.74	26.85
LKBH03	384634.56	399391.59	33.59	20.00	13.59	3.00	20.00	30.59	13.59	CF & MM	10/05/2023	-	-0.07	33.52	6.59	6.66	26.93
RBH304	384680.66	399402.07	34.66	9.45	25.21	5.00	9.00	29.66	25.66	RD	10/05/2023	-	-0.1	34.56	7.24	7.34	27.32
RBH303	384640.07	399422.36	33.01	15.00	18.01	5.00	10.00	28.01	23.01	CF	10/05/2023	-	-0.1	32.91	8.48	8.58	24.43
RBH306	384692.00	399446.81	33.73	20.00	13.73	9.00	11.00	24.73	22.73	MM	11/05/2023	-	-0.12	33.61	4.89	5.01	28.72
RBH305	384636.01	399469.21	32.15	20.00	12.15	5.00	9.00	27.15	23.15	CF	11/05/2023	-	-0.17	31.98	5.5	5.67	26.48
RBH304	384680.66	399402.07	34.66	9.45	25.21	5.00	9.00	29.66	25.66	RD	04/05/2023	-	-0.1	34.56	7.28	7.38	27.28
RBH302	384608.42	399383.57	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	04/05/2023	-	-0.07	33.52	6.48	6.55	27.04
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	04/05/2023	-	-0.14	33.45	6.6	6.74	26.85
RBH303	384640.07	399422.36	33.01	15.00	18.01	5.00	10.00	28.01	23.01	CF	04/05/2023	-	-0.1	32.91	6.03	6.13	26.88
RBH305	384636.01	399469.21	32.15	20.00	12.15	5.00	9.00	27.15	23.15	CF	04/05/2023	-	-0.17	31.98	5.47	5.64	26.51
RBH301	384576.68	399444.27	31.41	15.00	16.41	4.00	10.00	27.41	21.41	CF	04/05/2023	-	-0.09	31.32	4.63	4.72	26.69
RBH306	384692.00	399446.81	33.73	20.00	13.73	9.00	11.00	24.73	22.73	MM	04/05/2023	-	-0.12	33.61	4.87	4.99	28.74
LKBH03	384634.56	399391.59	33.59	20.00	13.59	3.00	20.00	30.59	13.59	CF & MM	04/05/2023	-	-0.07	33.52	6.56	6.63	26.96
RBH306	384692.00	399446.81	33.73	20.00	13.73	9.00	11.00	24.73	22.73	MM	28/04/2023	-	-0.12	33.61	3.87	3.99	29.74
RBH301	384576.68	399444.27	31.41	15.00	16.41	4.00	10.00	27.41	21.41	CF	28/04/2023	-	-0.09	31.32	4.61	4.7	26.71
RBH305	384636.01	399469.21	32.15	20.00	12.15	5.00	9.00	27.15	23.15	CF	28/04/2023	-	-0.17	31.98	5.46	5.63	26.52
RBH304	384680.66	399402.07	34.66	9.45	25.21	5.00	9.00	29.66	25.66	RD	28/04/2023	-	-0.1	34.56	7.31	7.41	27.25
RBH303	384640.07	399422.36	33.01	15.00	18.01	5.00	10.00	28.01	23.01	CF	28/04/2023	-	-0.1	32.91	6.01	6.11	26.90
RBH302	384608.42	399383.57	33.59	15.00	18.59	5.00	12.00	28.59	21.59	CF	28/04/2023	-	-0.07	33.52	6.46	6.53	27.06
RBH202	384638.05	399446.26	32.76	25.00	7.76	21.00	25.00	11.76	7.76	MM	16/02/2023	-	0	32.76	6.2	6.2	26.56
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	16/02/2023	-	0	33.59	6.73	6.73	26.86
RBH210	384845.14	399489.02	41.38	25.00	16.38	20.00	25.00	21.38	16.38	MM	16/02/2023	-	0	41.38	8.9	8.9	32.48
LKBH01	384593.48	399443.85	31.41	15.00	16.41	5.00	15.00	26.41	16.41	CF & MM	16/02/2023	-	0	31.41	4.7	4.7	26.71
LKBH03	384634.56	399391.59	33.59	20.00	13.59	3.00	20.00	30.59	13.59	CF & MM	16/02/2023	-	0	33.59	6.7	6.7	26.89
RBH201	384597.08	399455.18	31.40	25.10	6.30	21.00	25.00	10.40	6.40	MM	19/01/2023	-	-0.14	31.26	4.44	4.58	26.82
RBH202	384638.05	399446.26	32.76	25.00	7.76	21.00	25.00	11.76	7.76	MM	19/01/2023	-	-0.19	32.57	5.84	6.03	26.73
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	19/01/2023	-	-0.13	33.46	6.41	6.54	27.05
RBH207	384797.90	399510.73	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	19/01/2023	-	0.09	36.26	7.82	7.73	28.44
RBH208	384757.48	399461.38	42.00	24.00	18.00	19.00	24.00	23.00	18.00	MM	19/01/2023	-	-0.03	41.97	13.57	13.6	28.40
RBH209	384796.49	399492.29	40.46	24.00	16.46	12.00	17.00	28.46	23.46	MM	19/01/2023	-	-0.11	40.35	1.77	1.88	38.58
RBH210	384845.14	399489.02	41.38	25.00	16.38	20.00	25.00	21.38	16.38	MM	19/01/2023	-	-0.09	41.29	12.41	12.5	28.88
LKBH01	384593.48	399443.85	31.41	15.00	16.41	5.00	15.00	26.41	16.41	CF & MM	19/01/2023	-	-0.09	31.32	4.34	4.43	26.98
LKBH03	384634.56	399391.59	33.59	20.00	13.59	3.00	20.00	30.59	13.59	CF & MM	19/01/2023	-	-0.07	33.52	6.39	6.46	27.13
RBH202	384638.05	399446.26	32.76	25.00	7.76	21.00	25.00	11.76	7.76	MM	21/12/2022	-	0	32.76	6.22	6.22	26.54
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	21/12/2022	-	0	33.59	6.64	6.64	26.95
RBH207	384797.90	399510.73	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	21/12/2022	-	0	36.17	7.77	7.77	28.40
LKBH03	384634.56	399391.59	33.59	20.00	13.59	3.00	20.00	30.59	13.59	CF & MM	21/12/2022	-	0	33.59	6.62	6.62	26.97
LKBH01	384593.48	399443.85	31.41	15.00	16.41	5.00	15.00	26.41	16.41	CF & MM	27/09/2022	-	-0.09	31.32	4.6	4.69	26.72
RBH201	384597.08	399455.18	31.40	25.10	6.30	21.00	25.00	10.40	6.40	MM	27/09/2022	-	-0.14	31.26	4.65	4.79	26.61
RBH202	384638.05	399446.26	32.76	25.00	7.76	21.00	25.00	11.76	7.76	MM	27/09/2022	-	-0.2	32.56	6.09	6.29	26.47
RBH203	384619.36	399403.83	33.59	19.50	14.09	10.00	15.00	23.59	18.59	CF	27/09/2022	-	-0.14	33.45	6.66	6.8	26.79
RBH208	384757.48	399461.38	42.00	24.00	18.00	19.00	24.00	23.00	18.00	MM	27/09/2022	-	-0.04	41.96	13.74	13.78	28.22
RBH209	384796.49	399492.29	40.46	24.00	16.46	12.00	17.00	28.46	23.46	MM	27/09/2022	-	-0.25	40.21	12.35	12.6	27.86
RBH210	384845.14	399489.02	41.38	25.00	16.38	20.00	25.00	21.38	16.38	MM	27/09/2022	-	-0.09	41.29	12.54	12.63	28.75
RBH207	384797.90	399510.73	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	27/09/2022	-	0.08	36.25	7.97	7.89	28.28
RBH205	384721.68	399517.64	31.38	25.00	6.38	20.00	25.00	11.38	6.38	MM	27/09/2022	-	-0.09	31.29	5.42	5.51	25.87
LKBH03	384634.56	399391.59	33.59	20.00	13.59	3.00	20.00	30.59	13.59	CF & MM	27/09/2022	-	0	33.59	6.71	6.71	26.88
RBH210	384845.14	399489.02	41.38	25.00	16.38	20.00	25.00	21.38	16.38	MM	14/09/2022	-	-0.09	41.29	12.52	12.61	28.77
RBH207	384797.90	399510.73	36.17	25.00	11.17	20.00	25.00	16.17	11.17	MM	14/09/2022	-	0.08	36.25	7.92	7.84	28.33
RBH208	384757.48	399461.38	42.00	24.00	18.00	19.00	24.00	23.00	18.00	MM	14/09/2022	-	-0.04	41.96	13.7	13.74	28.26
RBH209	384796.49	399492.29	40.46	24.00	16.46	12.00	17.00	28.46	23.46	MM	14/09/2022	-	-0.25	40.21	12.32	12.57	27.89
RBH205	384721.68	399517.64	31.38	25.00	6.38	20.00	25.00	11.38	6.38	MM	02/09/2022	-	0	31.38	5.6	5.6	25.78
RBH206	384701.70	399491.17	32.00	25.00	7.00	21.00	25.00	11.00	7.00	MM	02/09/2022	-	0	32	5.75	5.75	26.25

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	2nd September 2022	Sampled by:	RM
	Weather:	Dry		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	YSI		
	Water Quality Meter Last Calibrated:	2nd September		
	Dissolved oxygen probe last calibrated:	2nd September		
	Water Level Meter Used (X that applicable):			
	Interface probe		Dip Meter	X



Typical Parameter Stabilisation Criteria for Low-Flow Sampling	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	RBH205										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	0			
Start Time:	13:55	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									YSI	<Select Probe
Well Material	HDPE	14:20	13.2	1056	3.78	7.02	-47.7	6.450		165.40	
Initial Water Level (m)	5.600	14:23	13.1	1054	0.77	7.06	-51.8	6.450		161.30	
		14:26	13.0	1055	0.52	7.09	-53.9	6.450		159.20	
LNAPL Present? (Y/N)	N	14:29	12.9	1056	0.39	7.11	-54.8	6.450		158.30	
Initial LNAPL Level (m)		14:52	12.9	1056	0.36	7.11	-55	6.450		158.10	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	6.50										
Depth to Base (m)	23.64	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.					Light brown, some sediment, no odour				
DNAPL Present? (Y/N)	N	Sample Containers Obtained					3 x G, 1 X P, 2 x V, 2 x Pr				
Initial DNAPL Level (m)		Sample Collection Time					14:20:00 - 14:46				

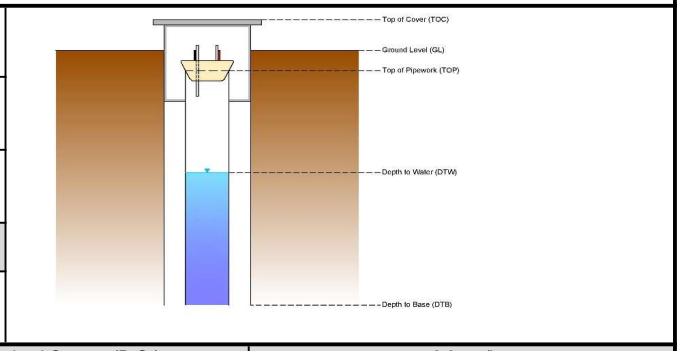
BH ID	**RBH206**										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	0			
Start Time:	14:55	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**YSI**	**<Select Probe**
Well Material	HDPE	15:00	15	965	1.51	6.98	-33.6	5.8		178.1	
Initial Water Level (m)	5.75	15:03	14.2	940	0.42	7.14	-44.4	5.8		168	
		15:06	14.2	940	0.32	7.15	-46.1	5.8		166.3	
LNAPL Present? (Y/N)	N	15:09	14.1	938	0.28	7.15	-46	5.8		166.4	
Initial LNAPL Level (m)											
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	Lowflow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.00										
		Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		3 x G, 1 X P, 2 x V, 2 x Pr							
Depth to Base (m)	24.99										
DNAPL Present? (Y/N)	n	Sample Containers Obtained		15:00-15:30							
Initial DNAPL Level (m)		Sample Collection Time									

BH ID											
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):				
Start Time:		Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)										**SmarTroll**	**<Select Probe**
Well Material											
Initial Water Level (m)											
LNAPL Present? (Y/N)											
Initial LNAPL Level (m)											
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)											
Sampling Method (Give details in Notes section.)											
Pump Intake Depth (m)											
		Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.									
Depth to Base (m)											
DNAPL Present? (Y/N)		Sample Containers Obtained									
Initial DNAPL Level (m)		Sample Collection Time									

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	14th September	Sampled by:	P.Nicol, J. Evans
	Weather:	Sunny, 21 C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	Smarttroll		
	Water Quality Meter Last Calibrated:	14th September		
	Dissolved oxygen probe last calibrated:	14th September		
	Water Level Meter Used (X that applicable):			
	Interface probe		Dip Meter	X

Typical Parameter Stabilisation Criteria for Low-Flow Sampling		
	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	RBH210										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.09			
Start Time:	13:55	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		14:03	16.9	955.72	4.01	7.53	-129.1	12.520		72.90	
Initial Water Level (m)	12.520	14:06	14.7	925.15	1.00	7.51	-127.2	12.520		76.48	
		14:09	13.8	920.23	0.77	7.5	-126.5	12.520		78.02	
LNAPL Present? (Y/N)	N	14:12	13.7	916.99	0.68	7.51	-126.8	12.620		77.72	
Initial LNAPL Level (m)		14:15	13.5	913.83	0.59	7.53	-128.1	12.620		77.25	
Well Headspace Reading (PID/FID)		14:18	13.4	913.69	0.58	7.53	-128.2	12.620		77.15	
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Bladder										
Pump Intake Depth (m)	22.00										
Depth to Base (m)	23.65	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		Light brown, some sediment, no odour							
DNAPL Present? (Y/N)	N	Sample Containers Obtained		3 x G, 1 X P, 2 x V, 2 x Pr							
Initial DNAPL Level (m)		Sample Collection Time		14:18:00 - 14:35							

BH ID	**RBH201, RBH202, RBH203 and RBH1 (RBH204 was not drilled)**										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):				
Start Time:		Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)										**SmarTroll**	**<Select Probe**
Well Material											
Initial Water Level (m)											
LNAPL Present? (Y/N)		Access refused. We spoke to Reece McGuinness to advise accordingly.Security had also e-mailed him and Linden Richardson to the same effect.									
Initial LNAPL Level (m)											
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)											
Sampling Method (Give details in Notes section)											
Pump Intake Depth (m)											
Depth to Base (m)		Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.									
DNAPL Present? (Y/N)		Sample Containers Obtained									
Initial DNAPL Level (m)		Sample Collection Time									

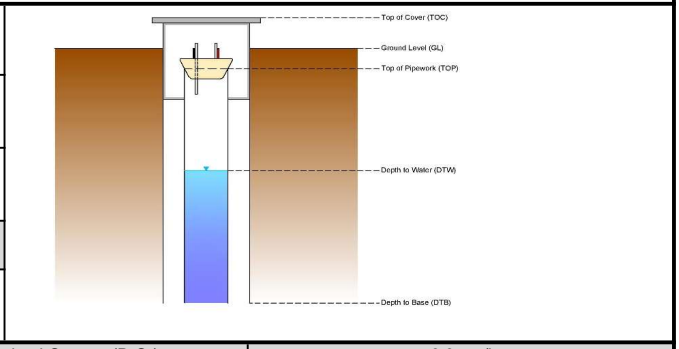
BH ID											
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):				
Start Time:		Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)										**SmarTroll**	**<Select Probe**
Well Material											
Initial Water Level (m)											
LNAPL Present? (Y/N)											
Initial LNAPL Level (m)											
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)											
Sampling Method (Give details in Notes section)											
Pump Intake Depth (m)											
Depth to Base (m)		Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.									
DNAPL Present? (Y/N)		Sample Containers Obtained									
Initial DNAPL Level (m)		Sample Collection Time									

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	NT02-4 Dantzic Street		
	Project Number:	4328		
	Sampling Date:	14th September 22	Sampled by:	P.Nicol, J.Evans
	Weather:	Overcast, 20 C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	SmartTroll		
	Water Quality Meter Last Calibrated:	14/09/2022		
	Dissolved oxygen probe last calibrated:	14/09/2022		
	Water Level Meter Used (X that applicable):			
	Interface probe		Dip Meter	X



Typical Parameter Stabilisation Criteria for Low-Flow Sampling		
	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	RBH207										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	0.08			
Start Time:	10:18	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		10:35	14.9	867.12	4.92	7.72	-146.1	7.920		57.58	
Initial Water Level (m)	7.920	10:38	12.4	846.29	0.79	7.75	-140.3	7.930		65.88	
		10:41	12.4	843.06	0.6	7.75	-139.8	7.930		66.38	
LNAPL Present? (Y/N)	N	10:44	12.0	838.91	0.23	7.75	-139.7	7.930		66.48	
Initial LNAPL Level (m)		10:47	12.0	838.60	0.21	7.75	-139.6	7.930		66.58	
Well Headspace Reading (PID/FID)		10:50	12.0	837.86	0.20	7.75	-139.5	7.930		66.68	
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	22.000										
Depth to Base (m)	24.110	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			Orangey brown colour, no odour, sediment present. Approx 2 litres purged						
DNAPL Present? (Y/N)	N	Sample Containers Obtained			3 x G, 1 x P, 2 x V, 2 x Pr						
Initial DNAPL Level (m)		Sample Collection Time			10:50:00 - 11:11						

BH ID	RBH208										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.04			
Start Time:	11:17	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
Well Material		11:35	13.8	976.62	6.39	7.77	-141.1	13.700		63.42	
Initial Water Level (m)	13.700	11:38	12.79	987.22	0.72	7.68	-136.3	13.700		69.05	
		11:41	12.38	983.24	0.33	7.67	-135.2	13.700		70.98	
LNAPL Present? (Y/N)	N	11:44	12.26	982.24	0.24	7.66	-134.9	13.700		71.28	
Initial LNAPL Level (m)		11:47	12.25	983.08	0.23	7.66	-134.8	13.700		71.38	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section)	Bladder										
Pump Intake Depth (m)	21.500										
Depth to Base (m)	23.560	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		Orangey brown colour, some sediment, no odour.							
DNAPL Present? (Y/N)	N	Sample Containers Obtained		3 x G, 1 x P, 2 x V, 2 x Pr							
Initial DNAPL Level (m)		Sample Collection Time		11:46:00 - 12:05							

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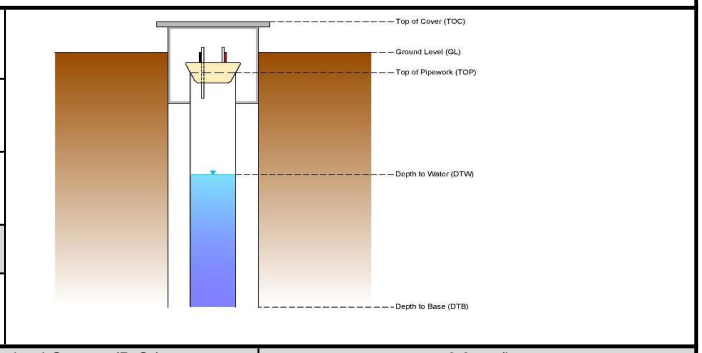
BH ID	RBH209										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.25			
Start Time:	12:48	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
Well Material		13:05	19.8	1242	4.51	7.56	-131.4	12.320		68.05	
Initial Water Level (m)	12.320	13:08	16.6	1231.9	2.70	7.51	-128.4	12.320		73.60	
		13:11	14.4	1252.9	1.04	7.47	-125.3	12.320		79.22	
LNAPL Present? (Y/N)	N	13:14	14.2	1153.8	0.94	7.47	-125.0	12.320		79.52	
Initial LNAPL Level (m)		13:17	13.8	1139.5	0.79	7.47	-124.9	12.320		79.62	
Well Headspace Reading (PID/FID)		13:20	13.7	1134.6	0.75	7.51	-126.9	12.320		77.62	
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section)	Bladder										
Pump Intake Depth (m)	15.500										
Depth to Base (m)	16.580	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		Orangey brown colour, no odour, lots of sediment.							
DNAPL Present? (Y/N)	N	Sample Containers Obtained		3 x G, 1 x P, 2 x V, 2 x Pr							
Initial DNAPL Level (m)		Sample Collection Time		13:20:00 - 13:45							

TPF209 Issue 6 - June 2021

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	27th September	Sampled by:	AM
	Weather:	Overcast, 12 C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	AQURA TROLL 848941			
	Water Quality Meter Last Calibrated:	27/09/2022			
	Dissolved oxygen probe last calibrated:	27/09/2022			
	Water Level Meter Used (X that applicable):				
	Interface probe	X	Dip Meter		

Typical Parameter Stabilisation Criteria for Low-Flow Sampling	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

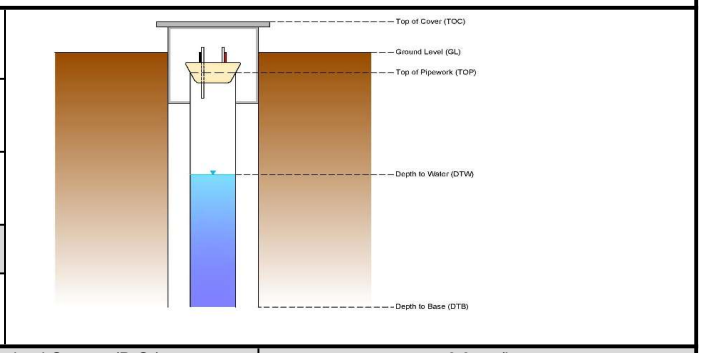
BH ID	RBH1 (Replacement for RBH204)										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.09			
Start Time:	09:40	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
Well Material		09:53	12.5	1668.8	2.2	7.20	-6.2	4.650		602.14	
Initial Water Level (m)	4.600	09:56	12.54	1674.7	0.45	7.23	-41.4	4.700		602.14	
		09:59	12.58	1662.5	0.32	7.26	-55.6	4.700		602.14	
LNAPL Present? (Y/N)	N	10:02	12.57	1647.9	0.24	7.28	-64.3	4.700		602.14	
Initial LNAPL Level (m)		10:05	12.59	1632.9	0.19	7.29	-73.2	4.700		602.14	
Well Headspace Reading (PID/FID)		10:08	12.6	1621.0	0.17	7.30	-77.1	4.700		602.14	
		10:11	12.6	1616.7	0.16	7.30	-70.7	4.700		602.14	
Purge Method (Give details in Notes section)	LowFlow	10:14	12.6	1614.2	0.15	7.30	-81.8	4.700		602.14	
		10:17	12.6	1614.4	0.14	7.30	-85.0	4.700		602.14	
Sampling Method (Give details in Notes section.)	Peristaltic	10:20	12.6	1615.7	0.13	7.30	-85.6	4.700		602.14	
		10:23	12.6	1618.0	0.13	7.30	-85.5	4.700		602.14	
Pump Intake Depth (m)	13.000	10:26	12.6	1620.8	0.13	7.29	-86.0	4.700		602.14	
Depth to Base (m)	14.190	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Cloudy , on odour , 16s to fill vail					
DNAPL Present? (Y/N)	N	Sample Containers Obtained				6x1l glass 2x500ml plastic 2xY 2xR 4xV					
Initial DNAPL Level (m)		Sample Collection Time				10:26					

BH ID	RBH201										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.14			
Start Time:	11:40	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
Well Material		11:43	13.65	1700.1	1.31	7.23	-10.1	4.700		602.14	
Initial Water Level (m)	4.650	11:46	13.7	1698.8	0.75	7.23	-12.9	4.730		602.14	
		11:49	13.78	1699.3	0.62	7.22	-14.8	4.730		602.14	
LNAPL Present? (Y/N)	N	11:52	13.71	1698.6	0.56	7.22	-15.5	4.730		602.14	
Initial LNAPL Level (m)		11:55	13.74	1699.8	0.51	7.22	-16.4	4.730		602.14	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	22.000										
Depth to Base (m)	24.930	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Cloudy , no odour ,28s to fill vail					
DNAPL Present? (Y/N)	N	Sample Containers Obtained				6x1l glass 2x500ml plastic 2xY 2xR 4xV					
Initial DNAPL Level (m)		Sample Collection Time				11:55					

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	27th September	Sampled by:	AM
	Weather:	Overcast, 12 C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	AQURA TROLL 848941		
	Water Quality Meter Last Calibrated:	27/09/2022		
	Dissolved oxygen probe last calibrated:	27/09/2022		
	Water Level Meter Used (X that applicable):			
	Interface probe: X	Dip Meter:		

Typical Parameter Stabilisation Criteria for Low-Flow Sampling		
	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	RBH202										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP							Offset from **datum** to GL (m):	-0.2		
Start Time:	13:55	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
Well Material		14:00	15.3	2201.1	4.14	7.08	140.1	6.100		602.14	
Initial Water Level (m)	6.090	14:03	14.1	2188.7	0.6	7.07	128.2	6.100		602.94	
		14:06	13.8	2189.7	0.41	7.07	126.4	6.100		602.94	
LNAPL Present? (Y/N)	N	14:09	13.7	2152.2	0.48	7.09	127.7	6.100		602.94	
Initial LNAPL Level (m)		14:12	13.7	2150.3	0.44	7.09	129.8	6.100		602.94	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)											
Pump Intake Depth (m)	23.000										
Depth to Base (m)	24.940	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Cleare , no odour , 19s to fill vail					
DNAPL Present? (Y/N)	N	Sample Containers Obtained				6 x G, 2 x P, 4 x Pr, 4 x V					
Initial DNAPL Level (m)		Sample Collection Time				14:12					

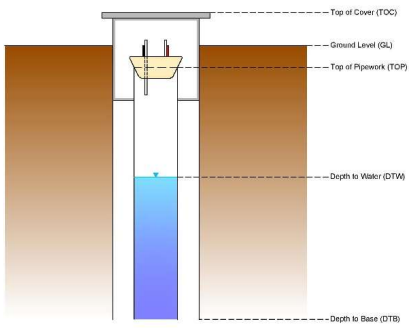
BH ID	RBH203										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.14			
Start Time:	15:22	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
Well Material		15:26	13.87	1125.7	4.57	7.49	117.1	6.670		602.14	
Initial Water Level (m)	6.660	15:29	12.73	1106.5	1.60	7.06	81.5	6.670		602.94	
		15:32	12.54	1114.0	1.41	7.01	88.8	6.670		602.94	
LNAPL Present? (Y/N)	N	15:35	12.48	1110.8	1.32	6.99	88.7	6.670		602.94	
Initial LNAPL Level (m)		15:38	12.48	1109.9	1.32	6.99	87.1	6.670		602.94	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	13.000										
Depth to Base (m)	15.490	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Clear, no odour, 21 seconds for 40 ml vial					
DNAPL Present? (Y/N)	N	Sample Containers Obtained				6 x G, 2 x P, 4 x Pr, 4 x V					
Initial DNAPL Level (m)		Sample Collection Time				15:38					

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	NT02-04 Dantzic Street		
	Project Number:	4328		
	Sampling Date:	27th September 2022	Sampled by:	P.Nicol
	Weather:	Overcast, 12 C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	Aquatroll			
	Water Quality Meter Last Calibrated:	27th September 2022			
	Dissolved oxygen probe last calibrated:	27th September 2022			
	Water Level Meter Used (X that applicable):				
	Interface probe		Dip Meter	X	



Typical Parameter Stabilisation Criteria for Low-Flow Sampling	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	RBH208										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.04			
Start Time:	09:50	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		10:26	11.8	945.32	4.06	7.75	-139.6	13.760		66.58	
Initial Water Level (m)	13.740	10:29	11.6	959.67	0.40	7.73	-138.4	13.760		67.78	
		10:32	11.6	955.48	0.33	7.73	-138.5	13.760		67.68	
LNAPL Present? (Y/N)	N	10:35	11.6	953.30	0.35	7.73	-138.7	13.760		67.48	
Initial LNAPL Level (m)		10:38	11.6	950.25	0.29	7.73	-138.8	13.760		67.38	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Bladder										
Pump Intake Depth (m)	21.500										
Depth to Base (m)	23.560	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			Clear, small amount of sediment, no odour. Approx 5 litres purged.						
DNAPL Present? (Y/N)	N	Sample Containers Obtained			3 x G, 1 x P, 2 x Pr, 2 x V						
Initial DNAPL Level (m)		Sample Collection Time			10:38:00 - 10:53						

BH ID	RBH209			
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.			
Measurement Datum:	TOP	Offset from **datum** to GL (m):	-0.25	

Start Time:	11:11	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		11:29	11.45	1165.9	0.86	7.77	-140.4	12.380		66.60	
Initial Water Level (m)	12.350	11:32	11.32	1153.2	0.62	7.76	-139.2	12.380		67.80	
		11:35	11.31	1169.0	0.70	7.62	-132.1	12.380		74.90	
LNAPL Present? (Y/N)	N	11:38	11.29	1166.0	0.68	7.72	-138.1	12.380		68.90	
Initial LNAPL Level (m)		11:41	11.27	1158.6	0.66	7.76	-140.1	12.380		66.90	
Well Headspace Reading (PID/FID)		11:44	11.3	1156.2	0.66	7.76	-140.4	12.380		66.60	
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section)	Bladder										
Pump Intake Depth (m)	15.500										
Depth to Base (m)	16.580	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Light orangey brown colour, no odour, sediment present. Approx 6 litres p					
DNAPL Present? (Y/N)	N	Sample Containers Obtained				3 x G, 1 x P, 2 x Pr, 2 x V					
Initial DNAPL Level (m)		Sample Collection Time				11:44 - 11:58					

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BH ID	RBH210										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):		-0.09		
Start Time:	13:15	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		13:24	12.1	889.63	0.6	7.74	-139.2	12.550		66.98	
Initial Water Level (m)	12.540	13:27	12.17	887.64	0.56	7.75	-139.7	12.550		66.48	
		13:30	12.09	886.45	0.45	7.74	-138.9	12.550		67.28	
LNAPL Present? (Y/N)	N	13:33	12.05	886.31	0.42	7.73	-138.5	12.550		67.68	
Initial LNAPL Level (m)		`13:36	12.03	886.41	0.39	7.73	-138.4	12.550		67.78	
Well Headspace Reading (PID/FID)		13:39	12.0	883.45	0.35	7.73	-139.5	12.550		66.68	
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section)	Bladder										
Pump Intake Depth (m)	22.000										
Depth to Base (m)	23.050	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Clear, small amount of sediment, no odour. Approx 5 litres purged.					
DNAPL Present? (Y/N)	N	Sample Containers Obtained				3 x G, 1 x P, 2 x Pr, 2 x V					
Initial DNAPL Level (m)		Sample Collection Time				13:39 - 13:54					

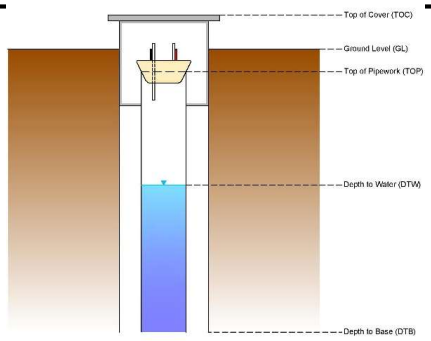
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Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	NT02-04 Dantzic Street		
	Project Number:	4328		
	Sampling Date:	28th September 2022	Sampled by:	P.Nicol/A.Mowafi
	Weather:	Sunny, 12 C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	Aquatroll 359475			
	Water Quality Meter Last Calibrated:	28th September 2022			
	Dissolved oxygen probe last calibrated:	28th September 2022			
	Water Level Meter Used (X that applicable):				
	Interface probe	X	Dip Meter		



Typical Parameter Stabilisation Criteria for Low-Flow Sampling	
Dissolved Oxygen (D.O.)	0.3 mg/l
Specific Conductivity (Sp.Cond)	3%
p.H	0.1 unit
Oxygen Reduction Potential (ORP)	10mV
* For REDOX correction, see separate guidance	

BH ID	RBH207										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	0.08			
Start Time:	08:35	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		08:49	10.7	818.4	0.52	7.61	-131.9	7.970		75.10	
Initial Water Level (m)	7.970	08:52	11.1	819.26	0.37	7.70	-136.4	7.970		70.60	
		08:55	11.1	818.62	0.27	7.75	-138.7	7.970		68.30	
LNAPL Present? (Y/N)	N	08:58	11.2	819.94	0.26	7.70	-136.4	7.970		70.60	
Initial LNAPL Level (m)		09:01	11.3	817.48	0.23	7.71	-136.9	7.970		70.10	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)											
Pump Intake Depth (m)	22.500										
Depth to Base (m)	24.110	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			40ml vial = 18 seconds. Cloudy, no odour, some sediment. Approx 2 litres						
DNAPL Present? (Y/N)	N	Sample Containers Obtained			3 x G, 1 x P, 2 x Pr, 2 x V						
Initial DNAPL Level (m)		Sample Collection Time			09:01:00 - 09:23						

BH ID	RBH205			
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.			
Measurement Datum:	TOP	Offset from **datum** to GL (m):	-0.09	

Start Time:	09:46
Well Diameter (mm)	50
Well Material	
Initial Water Level (m)	5.420
LNAPL Present? (Y/N)	N
Initial LNAPL Level (m)	
Well Headspace Reading (PID/FID)	
Purge Method (Give details in Notes section)	LowFlow
Sampling Method (Give details in Notes section)	Peristaltic
Pump Intake Depth (m)	22.000
Depth to Base (m)	23.450
DNAPL Present? (Y/N)	N
Initial DNAPL Level (m)	

Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
								SmarTroll	<Select Probe
10:01	11.06	834.76	0.63	7.58	-129.6	5.420		77.40	
10:04	12.28	848.22	0.33	7.59	-130.8	5.420		75.38	
10:07	12.45	868.31	0.24	7.59	-131.1	5.420		75.08	
10:10	12.5	877.9	0.2	7.6	-131.7	5.420		73.65	
10:13	12.56	891.71	0.16	7.59	-131.5	5.420		73.85	
10:16	12.7	905.61	0.15	7.59	-131.2	5.420		74.15	
10:19	12.7	906.61	0.14	7.59	-131.3	5.420		74.05	

Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.	40ml vial = 16 seconds, light brown, no odour, some sediment. Approx 5 li
Sample Containers Obtained	3 x G, 1 x P, 2 x Pr, 2 x V
Sample Collection Time	10:19:00 - 10:35

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BH ID	Unknown well inside furthest warehouse (RM advised) - **PURGE**
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.
Measurement Datum:	TOP
Offset from **datum** to GL (m):	0

Start Time:	11:00
Well Diameter (mm)	50
Well Material	
Initial Water Level (m)	6.710
LNAPL Present? (Y/N)	N
Initial LNAPL Level (m)	
Well Headspace Reading (PID/FID)	
Purge Method (Give details in Notes section)	Other
Sampling Method (Give details in Notes section)	
Pump Intake Depth (m)	
Depth to Base (m)	18.570
DNAPL Present? (Y/N)	N
Initial DNAPL Level (m)	

Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
								SmarTroll	<Select Probe
11:15	12.58	795.62	1.58	7.59	-138.9			66.45	
11:30	12.23	798.65	1.49	7.59	-138.5			67.68	

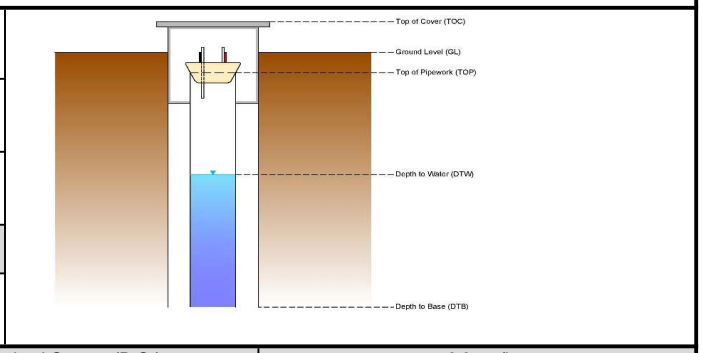
Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.	72 litres developed by bailer
Sample Containers Obtained	None
Sample Collection Time	

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Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Danzick Street		
	Project Number:	4328		
	Sampling Date:	19/01/2023	Sampled by:	AS
	Weather:	overcast 4C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	AQURA TROLL 848941		
	Water Quality Meter Last Calibrated:	19/01/2023		
	Dissolved oxygen probe last calibrated:			
	Water Level Meter Used (X that applicable):			
	Interface probe: x	Dip Meter:		

Typical Parameter Stabilisation Criteria for Low-Flow Sampling	
Dissolved Oxygen (D.O.)	0.3 mg/l
Specific Conductivity (Sp.Cond)	3%
p.H	0.1 unit
Oxygen Reduction Potential (ORP)	10mV
* For REDOX correction, see separate guidance	

BH ID	RBH1										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	top							Offset from **datum** to GL (m):	-0.09		
Start Time:	12:45	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)		Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		12:49	10.3	709.2	1.35	6.6	74.8	4.35		282.62	
Initial Water Level (m)	4.34	12:52	10.9	706.7	1.18	6.6	47.8	4.35		254.80	
		12:55	11.1	711.5	1.05	6.6	23.4	4.35		230.40	
LNAPL Present? (Y/N)	n	12:58	11.3	726.8	0.93	6.6	-15.5	4.35		191.50	
Initial LNAPL Level (m)		13:01	11.5	759.3	0.79	6.63	-52.9	4.35		153.28	
Well Headspace Reading (PID/FID)	0.8	13:04	11.6	815.3	0.66	6.68	-85.8	4.35		120.38	
		13:07	11.6	976.6	0.42	6.79	-127.8	4.35		78.38	
Purge Method (Give details in Notes section)	LowFlow	13:10	11.6	1033	0.28	6.89	-160.6	4.35		45.58	
		13:13	11.6	1080	0.20	6.94	-176.3	4.35		29.88	
Sampling Method (Give details in Notes section.)	Peristaltic	13:16	11.5	1053	0.26	6.94	-177.9	4.35		28.28	
		13:19	11.5	1060	0.27	6.96	-183.0	4.35		23.18	
Pump Intake Depth (m)	5.40										
Depth to Base (m)	14.15	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		clear slightly hydrocarbon smell.19s to fill 40ml vial							
DNAPL Present? (Y/N)	n	Sample Containers Obtained		3x 1L glass 1x 500ML plastic 1x yellow 1x red 1x 40ML vial							
Initial DNAPL Level (m)		Sample Collection Time		13:20							

BH ID	RBH3										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.07			
Start Time:	14:15	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)		Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
		14:19	10.4	811.1	5.20	6.73	-2.6	6.40		205.22	
Initial Water Level (m)	6.39	14:22	10.7	810.4	5.10	6.73	4.5	6.40		211.50	
		14:25	10.8	808.4	5.07	6.71	5.07	6.40		212.07	
LNAPL Present? (Y/N)	n	14:28	10.9	808.8	5.01	6.71	15.20	6.40		222.20	
Initial LNAPL Level (m)		14:31	11.0	808.8	4.97	6.71	19.60	6.40		226.60	
Well Headspace Reading (PID/FID)	2.8										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.40										
Depth to Base (m)	18.40	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			clear no odour.20s to fill 40ml vial						
DNAPL Present? (Y/N)	n	Sample Containers Obtained			3x 1L glass 1x 500ML plastic 1x yellow 1x red 1x 40ML vial						
Initial DNAPL Level (m)		Sample Collection Time			14:32						

BH ID	RBH203										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):				
Start Time:	15:00	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)		Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
Well Material		15:08	11.1	1169	3.32	6.50	38.3	6.41		245.30	
Initial Water Level (m)	6.41	15:11	11.5	1160	3.01	6.51	41.4	6.41		247.58	
		15:14	11.6	1123	2.80	6.51	43.4	6.41		249.58	
LNAPL Present? (Y/N)	n	15:17	11.6	1091	2.60	6.52	45.0	6.41		251.18	
Initial LNAPL Level (m)		15:20	11.7	1065.7	2.30	6.50	45.7	6.41		251.88	
Well Headspace Reading (PID/FID)	18.9	15:23	11.7	1047	2.07	6.56	46.2	6.41		252.38	
		15:26	11.7	1027	1.89	6.57	46.6	6.41		252.78	
Purge Method (Give details in Notes section)	LowFlow	15:29	11.7	1037	1.94	6.56	47.3	6.41		253.48	
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.45										
Depth to Base (m)	15.48	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			clear no odour.14s to fill 40ml vial						
DNAPL Present? (Y/N)	n	Sample Containers Obtained			3x 1L glass 1x 500ML plastic 1x yellow 1x red 1x 40ML vial						
Initial DNAPL Level (m)		Sample Collection Time			15:31						

BH ID	RBH302										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP							Offset from **datum** to GL (m):	-0.07		
Start Time:	08:15	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
		08:18	11.3	830.4	3.82	6.58	253.9	6.5	115	460.90	
Initial Water Level (m)	6.48	08:21	11.3	843.8	4.07	6.63	248.7	6.5	103.1	455.70	
		08:24	11.3	850.9	4.08	6.65	242.3	6.5	80.2	449.30	
LNAPL Present? (Y/N)	n	08:27	11.3	860.6	4.21	6.66	236.6	6.5	54.9	443.60	
Initial LNAPL Level (m)		08:30	11.3	862	4.29	6.66	232.9	6.5	47	439.90	
Well Headspace Reading (PID/FID)	0										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.50										
Depth to Base (m)	11:31	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				slightly cloudy/ no odour. 22s to fill 40ml					
DNAPL Present? (Y/N)	n	Sample Containers Obtained				2 x 1l glas 2x 40ml vial 1x yellow 1x red 1xblue 2 x plastic					
Initial DNAPL Level (m)		Sample Collection Time				08:32					

BH ID	RBH203										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP							Offset from **datum** to GL (m):	-0.14		
Start Time:	09:00	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									**SmarTroll**	**<Select Probe**
Well Material		09:02	11.4	956	2.05	6.55	217.1	6.60	1.60	424.10	
Initial Water Level (m)	6.6	09:05	11.5	968.5	1.56	6.55	215.8	6.60	0.60	421.98	
		09:08	11.5	974.4	1.52	6.55	214.8	6.60	0.50	420.98	
LNAPL Present? (Y/N)	n	09:11	11.5	975.5	1.5	6.54	214	6.60	0.60	420.18	
Initial LNAPL Level (m)		09:14	11.5	980.4	1.51	6.54	213	6.60	0.80	419.18	
Well Headspace Reading (PID/FID)	0										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.60										
Depth to Base (m)	15.46	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				clear no odour. 18 S to fill 40ml vial					
DNAPL Present? (Y/N)	n	Sample Containers Obtained				2 x 1l glas 2x 40ml vial 1x yellow 1x red 1xblue 2 x plastic					
Initial DNAPL Level (m)		Sample Collection Time				09:16					

Measurement Datum:	TOP							Offset from **datum** to GL (m):	-0.17	
Start Time:	11:00	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		11:06	13.6	873.3	4.97	6.85	171.6	5.49	702.4	376.12	
Initial Water Level (m)	5.47	11:09	13.1	883.3	4.81	6.89	171.2	5.495	565.3	376.55	
		11:12	13.2	920.3	4.45	6.88	171	5.5	526.6	376.35	
LNAPL Present? (Y/N)	N	11:15	13.3	992.80	3.73	6.82	172.8	5.505	360.3	378.15	
Initial LNAPL Level (m)		11:18	13.3	1028	3.18	6.79	172.2	5.505	354.6	377.55	
Well Headspace Reading (PID/FID)	0	11:21	13.4	1047	2.79	6.77	172.7	5.505	270.6	378.05	
		11:24	13.4	1058.3	2.67	6.77	171.8	5.505	277.6	377.15	
Purge Method (Give details in Notes section)	LowFlow	11:27	13.7	1067	2.56	6.76	170.6	5.505	250.4	375.12	
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	6.50										
Depth to Base (m)	7.55	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				cloudy ,bright brown colour no odour. 51s to fill 40ml vial					
DNAPL Present? (Y/N)	N	Sample Containers Obtained				2 x 1l glas 2x 40ml vial 1x yellow 1x red 1xblue 2 x plastic					
Initial DNAPL Level (m)		Sample Collection Time				11:28					

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BH ID	RBH301										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:								Offset from **datum** to GL (m):	-0.09		
Start Time:	12:25	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									YSI	<Select Probe
Well Material		12:29	13.1	1508.2	0.33	6.88	-152.2	4.645	1772.3	53.15	
Initial Water Level (m)	4.63	12:32	12.8	1517	0.22	6.91	-161.3	4.645	1804	44.05	
		12:35	12.8	1519	0.2	6.92	-166.9	4.645	1732	38.45	
LNAPL Present? (Y/N)		12:38	13.2	1519.3	0.21	6.92	-168.9	4.645	1520.5	36.45	
Initial LNAPL Level (m)		12:41	13.0	1515	0.21	6.93	-170.3	4.645	1416	35.05	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	5.65										
Depth to Base (m)	8.58	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				very cloudy to brown colour no odour. 22s to fill 40ml vial					
DNAPL Present? (Y/N)		Sample Containers Obtained				2 x 1l glas 1x 40ml vial 1x yellow 1x red 1xblue 2 x plastic					
Initial DNAPL Level (m)		Sample Collection Time				12:42					

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Measurement Datum:	TOP							Offset from **datum** to GL (m):	-0.07		
Start Time:	14:40	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		14:48	12.6	801.8	4.78	6.72	54.1	6.59	32.9	259.45	
Initial Water Level (m)	6.56	14:51	12.3	801.5	4.77	6.68	63.2	6.59	24.5	269.38	
		14:54	12.1	802.7	4.78	6.67	68.6	6.59	21.2	274.78	
LNAPL Present? (Y/N)	N	14:57	12.0	799.40	4.77	6.67	72.5	6.59	12.5	278.68	
Initial LNAPL Level (m)		15:00	11.9	799.6	4.77	6.67	75.6	6.59	15.9	281.78	
Well Headspace Reading (PID/FID)	0										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.60										
Depth to Base (m)	18.40	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			clear no odour. 17s to fill 40ml vial						
DNAPL Present? (Y/N)	N	Sample Containers Obtained			2 x 1l glas 2x 40ml vial 1x yellow 1x red 1xblue 2 x plastic						
Initial DNAPL Level (m)		Sample Collection Time			15:01						

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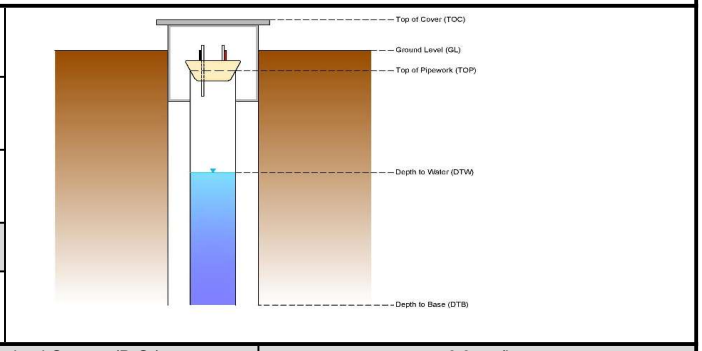
BH ID											
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:								Offset from **datum** to GL (m):			
Start Time:		Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)										YSI	<Select Probe
Well Material											
Initial Water Level (m)											
LNAPL Present? (Y/N)											
Initial LNAPL Level (m)											
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)											
Depth to Base (m)		Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.									
DNAPL Present? (Y/N)		Sample Containers Obtained			3x 1L glass 1x 500ML plastic 1x yellow 1x red 1x 40ML vial						
Initial DNAPL Level (m)		Sample Collection Time									

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Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	10/05/2023	Sampled by:	IB
	Weather:	Showers 14C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	AquaTroll 978034		
	Water Quality Meter Last Calibrated:	X		
	Dissolved oxygen probe last calibrated:	X		
	Water Level Meter Used (X that applicable):			
	Interface probe: x	Dip Meter:		

Typical Parameter Stabilisation Criteria for Low-Flow Sampling		
	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	RBH301										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:							Offset from **datum** to GL (m):	-0.09			
Start Time:	09:00	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									YSI	<Select Probe
Well Material		09:10	12.60	1577.40	0.59	6.92	-47.90	4.66	1820.19	165.20	
Initial Water Level (m)	4.64	09:13	12.43	1579.80	0.42	6.93	-57.20	4.65	1928.52	156.60	
		09:16	12.48	1582.00	0.33	6.93	-64.80	4.65	2195.63	149.00	
LNAPL Present? (Y/N)	n	09:19	12.36	1580.80	0.32	6.94	-67.70	4.66	2278.68	146.10	
Initial LNAPL Level (m)		09:22	12.48	1582.40	0.31	6.94	-72.30	4.66	2459.75	141.50	
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	5.70										
Depth to Base (m)	8.61	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Translucent, Red brown sediment					
DNAPL Present? (Y/N)	n	Sample Containers Obtained				2 x 1L Glass, 2 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 2 x Vial					
Initial DNAPL Level (m)		Sample Collection Time									

BH ID	RBH302										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.07			
Start Time:	10:14	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
		10:24	12.39	852.45	4.00	6.76	155.00	6.50	1539.70	368.80	
Initial Water Level (m)	6.48	10:27	11.97	856.49	3.76	6.73	159.40	6.50	1295.20	373.20	
		10:30	11.81	873.81	4.11	6.72	164.80	6.50	908.58	378.60	
LNAPL Present? (Y/N)	n	10:33	11.80	880.63	4.19	6.71	168.70	6.50	826.51	382.50	
Initial LNAPL Level (m)		10:36	11.78	891.71	4.34	6.71	171.60	6.50	643.86	385.40	
Well Headspace Reading (PID/FID)	0										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.50										
Depth to Base (m)	11.23	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			Translucent, sediment						
DNAPL Present? (Y/N)	n	Sample Containers Obtained			2 x 1L Glass, 2 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 2 x Vial						
Initial DNAPL Level (m)		Sample Collection Time									

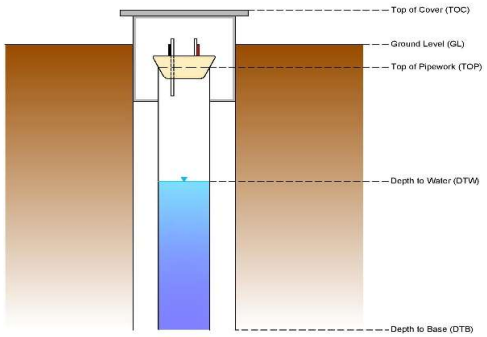
BH ID	RBH203										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.14			
Start Time:	11:09	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		11:15	11.82	887.22	1.78	6.71	180.90	6.61	80.88	394.70	
Initial Water Level (m)	6.60	11:18	11.72	893.92	1.12	6.70	180.90	6.61	44.14	394.70	
		11:21	11.70	905.81	1.05	6.69	180.60	6.61	39.77	394.40	
LNAPL Present? (Y/N)	n	11:24	11.66	912.24	0.97	6.69	179.50	6.61	33.93	393.30	
Initial LNAPL Level (m)		11:27	11.67	905.34	0.95	6.69	178.20	6.61	39.64	392.00	
Well Headspace Reading (PID/FID)	0										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.60										
Depth to Base (m)	15.46	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			Translucent, sediment						
DNAPL Present? (Y/N)	n	Sample Containers Obtained			2 x 1L Glass, 2 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 2 x Vial						
Initial DNAPL Level (m)		Sample Collection Time									

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	10/05/2023	Sampled by:	IB
	Weather:	Showers 14C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	AquaTroll 978034		
	Water Quality Meter Last Calibrated:	X		
	Dissolved oxygen probe last calibrated:	X		
	Water Level Meter Used (X that applicable):			
	Interface probe	x	Dip Meter	



Typical Parameter Stabilisation Criteria for Low-Flow Sampling		
	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	LK BH03										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP							Offset from **datum** to GL (m):	-0.07		
Start Time:	11:59	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		12:07	11.60	839.24	5.06	6.80	184.80	6.61	83.63	390.98	
Initial Water Level (m)	6.59	12:10	11.61	840.90	4.95	6.80	187.00	6.61	91.54	393.18	
		12:13	11.59	840.18	4.89	6.80	188.70	6.61	66.31	394.88	
LNAPL Present? (Y/N)	N	12:16	11.56	839.19	4.87	6.80	190.10	6.61	63.83	396.28	
Initial LNAPL Level (m)		12:19	11.53	838.06	4.86	6.80	191.40	6.61	35.64	397.58	
Well Headspace Reading (PID/FID)	0										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	7.60										
Depth to Base (m)	18.41	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		Translucent, slight sediment.							
DNAPL Present? (Y/N)	N	Sample Containers Obtained		2 x 1L Glass, 2 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 2 x Vial							
Initial DNAPL Level (m)		Sample Collection Time									

BH ID	RBH304
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.

Measurement Datum:	top						Offset from **datum** to GL (m):	-0.1		
Start Time:	12:30	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Initial Water Level (m)	7.24										
LNAPL Present? (Y/N)	n										
Initial LNAPL Level (m)											
Well Headspace Reading (PID/FID)	0										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)											
Depth to Base (m)	7.30	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.								Insufficent water	
DNAPL Present? (Y/N)	n	Sample Containers Obtained									
Initial DNAPL Level (m)		Sample Collection Time									

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BH ID	RBH303										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.1			
Start Time:	13:38	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		13:44	14.08	717.82	3.38	6.39	212.70	6.06	367.40	417.22	
Initial Water Level (m)	6.05	13:47	13.38	718.59	2.96	6.38	214.10	6.06	318.40	419.45	
		13:50	13.30	720.73	2.88	6.38	213.70	6.06	310.88	419.05	
LNAPL Present? (Y/N)	n	13:53	14.19	692.05	4.05	6.45	210.80	6.06	298.90	415.32	
Initial LNAPL Level (m)		13:56	14.42	681.01	5.27	6.52	209.30	6.06	313.51	413.82	
Well Headspace Reading (PID/FID)	0	13:59	14.53	1.91	6.67	6.84	198.00	6.05	5.53	401.68	rain affect pump
		14:02	13.83	702.68	5.44	6.52	210.20	6.06	385.62	414.72	
Purge Method (Give details in Notes section)	LowFlow	14:05	13.01	713.53	3.46	6.43	213.70	6.06	383.67	419.05	
		14:08	12.73	720.08	3.19	6.41	214.40	6.07	337.42	419.75	
Sampling Method (Give details in Notes section.)	Peristaltic	14:11	12.62	728.98	2.85	6.39	214.70	6.07	309.10	420.05	
		14:14	12.52	730.66	2.70	6.39	214.30	6.07	350.05	419.65	
Pump Intake Depth (m)	7.10	14:17	12.51	731.85	2.73	6.39	214.00	6.07	324.61	419.35	
Depth to Base (m)	8.48	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Translucent, sediment					
DNAPL Present? (Y/N)	n	Sample Containers Obtained				2 x 1L Glass, 2 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 2 x Vial					
Initial DNAPL Level (m)		Sample Collection Time									

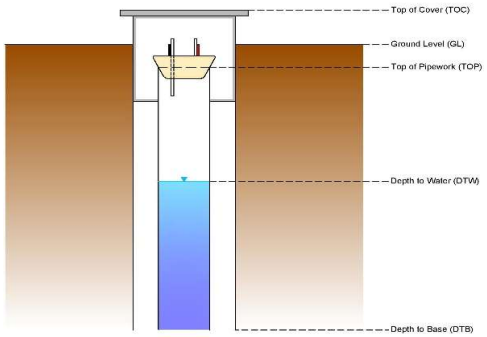
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Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	11/05/2023	Sampled by:	IB
	Weather:	Cloud 14C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	AquaTroll 978034		
	Water Quality Meter Last Calibrated:	X		
	Dissolved oxygen probe last calibrated:	X		
	Water Level Meter Used (X that applicable):			
	Interface probe	x	Dip Meter	



Typical Parameter Stabilisation Criteria for Low-Flow Sampling		
	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	RBH306										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.12			
Start Time:	08:23	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		08:29	14.04	2027.50	1.47	6.52	38.90	4.95	65.08	243.42	
Initial Water Level (m)	4.89	08:32	14.26	2001.60	0.75	6.50	28.00	4.94	71.00	232.52	
		08:35	14.57	1977.50	0.52	6.50	19.30	4.95	92.75	222.98	
LNAPL Present? (Y/N)	n	08:38	14.82	2029.80	0.42	6.50	15.80	4.96	78.09	219.48	
Initial LNAPL Level (m)		08:41	15.00	2039.10	0.35	6.49	14.90	4.96	95.90	218.58	
Well Headspace Reading (PID/FID)	0	08:44	15.18	2038.10	0.32	6.50	10.70	4.96	95.02	214.38	
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	6.00										
Depth to Base (m)	10.82	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			Translucent, sediment						
DNAPL Present? (Y/N)	n	Sample Containers Obtained			2 x 1L Glass, 2 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 2 x Vial						
Initial DNAPL Level (m)		Sample Collection Time									

BH ID	RBH305
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.

Measurement Datum:	TOP								Offset from **datum** to GL (m):	-0.17	
Start Time:	11:40	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		11:46	13.79	1050.60	3.46	6.89	188.10	5.52		392.62	9588.3 NTU
Initial Water Level (m)	5.50	11:49	13.51	1108.40	2.94	6.81	188.10	5.53		392.62	120007 NTU
		11:52	13.54	1164.10	2.36	6.76	186.50	5.53		391.02	9074 NTU
LNAPL Present? (Y/N)	N	11:55	13.25	1217.00	2.12	6.71	186.80	5.53	2953.90	392.15	
Initial LNAPL Level (m)		11:58	13.16	1231.60	2.11	6.66	189.50	5.54	1163.00	394.85	
Well Headspace Reading (PID/FID)	0	12:01	13.04	1245.30	1.94	6.65	190.20	5.54	929.69	395.55	
											over 5000 NTU in t
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	6.50										
Depth to Base (m)	7.48	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Translucent, Red/brown sediment					
DNAPL Present? (Y/N)	N	Sample Containers Obtained				2 x 1L Glass, 2 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 2 x Vial					
Initial DNAPL Level (m)		Sample Collection Time									

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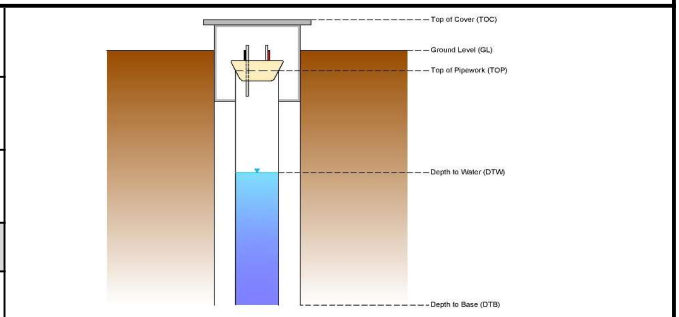
BH ID	SS304										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:									Offset from **datum** to GL (m):		
Start Time:	11:08	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)										YSI	<Select Probe
Well Material			14.1	524.7	9.44	7.98	146.37		12.21		
Initial Water Level (m)											
LNAPL Present? (Y/N)											
Initial LNAPL Level (m)											
Well Headspace Reading (PID/FID)											
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)											
Depth to Base (m)		Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.				Clear, slight sediment					
DNAPL Present? (Y/N)		Sample Containers Obtained				2 x 1L Glass, 2 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 2 x Vial					
Initial DNAPL Level (m)		Sample Collection Time									

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Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	13th November	Sampled by:	P.Nicol
	Weather:			
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	Aquatroll 978172		
	Water Quality Meter Last Calibrated:	13.11.23		
	Dissolved oxygen probe last calibrated:	13.11.23		
	Water Level Meter Used (X that applicable):			
	Interface probe		Dip Meter	X

Typical Parameter Stabilisation Criteria for Low-Flow Sampling	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

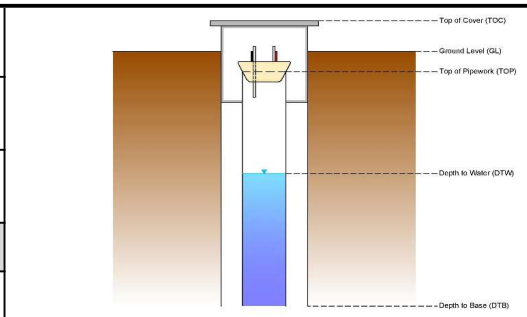
BH ID	RBH203										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.12			
Start Time:	13:55	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		14;12	11.57	1142.50	1.58	6.84	-52.50	6.27		153.68	
Initial Water Level (m)	6.27	14:15	11.74	1133.90	0.71	6.77	-53.40	6.27		152.78	
		14:18	11.80	1122.90	0.55	6.76	-54.00	6.27		152.18	
LNAPL Present? (Y/N)	N	14:21	11.83	1120.70	0.48	6.75	-55.90	6.27		150.28	
Initial LNAPL Level (m)		14:24	11.85	1126.70	0.43	6.74	-56.40	6.27		149.78	
Well Headspace Reading (PID/FID)	0.0	14:27	11.86	1123.80	0.40	6.74	-56.80	6.27		149.38	
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	14.90										
Depth to Base (m)	15.40	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		Clear, no odour or sediment. 40ml vial = 18 seconds. Approx 3 litres purg							
DNAPL Present? (Y/N)	N	Sample Containers Obtained		4 x 500ml glass, 1 x 500ml plastic, 3 x pr, 1 x 40ml vial							
Initial DNAPL Level (m)		Sample Collection Time		14:27:00 - 14:55							

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	13th November 2023	Sampled by:	P.Nicol
	Weather:	Overcast		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	Aquatroll 978172			
	Water Quality Meter Last Calibrated:	13.11.23			
	Dissolved oxygen probe last calibrated:	13.11.23			
	Water Level Meter Used (X that applicable):				
	Interface probe		Dip Meter	X	



Typical Parameter Stabilisation Criteria for Low-Flow Sampling		
	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

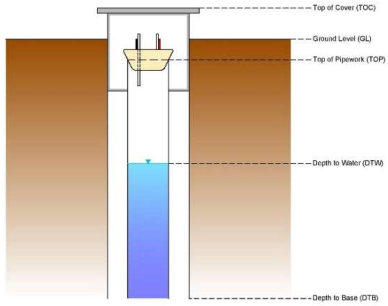
BH ID	RBH504										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.13			
Start Time:	10:10	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material		10:22	12.51	1823.50	1.71	6.66	202.20	6.92		407.55	
Initial Water Level (m)	6.88	10:25	12.54	1820.70	1.20	6.60	144.30	6.92		349.65	
		10:28	12.55	1819.70	1.10	6.58	75.40	6.92		280.75	
LNAPL Present? (Y/N)	N	10:31	12.55	1818.70	1.06	6.57	10.30	6.92		215.65	
Initial LNAPL Level (m)		10:34	12.54	1817.70	1.04	6.56	-46.10	6.92		159.25	
Well Headspace Reading (PID/FID)	0.0	10:37	12.59	1817.50	1.01	6.56	-76.20	6.92		129.15	
		10:40	12.56	1815.50	0.96	6.56	-82.20	6.92		123.15	
Purge Method (Give details in Notes section)	LowFlow	10:43	12.56	1814.90	0.94	6.56	-85.20	6.92		120.15	
Sampling Method (Give details in Notes section)	Peristaltic										
Pump Intake Depth (m)	10.70										
Depth to Base (m)	11.21	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		Light brown in colour, some sediment, no odour. 40 ml vial = 17 seconds.							
DNAPL Present? (Y/N)	N	Sample Containers Obtained		4 x 500ml glass, 1 x 500ml p, 3 x pr, 1 x vial							
Initial DNAPL Level (m)		Sample Collection Time		10:44:00 - 11:08							

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	13/11/2023	Sampled by:	IB
	Weather:	Overcast 8C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	AquaTroll 978034		
	Water Quality Meter Last Calibrated:	13.11.23		
	Dissolved oxygen probe last calibrated:	13.11.23		
	Water Level Meter Used (X that applicable):			
	Interface probe	x	Dip Meter	



Typical Parameter Stabilisation Criteria for Low-Flow Sampling	
Dissolved Oxygen (D.O.)	0.3 mg/l
Specific Conductivity (Sp.Cond)	3%
p.H	0.1 unit
Oxygen Reduction Potential (ORP)	10mV
* For REDOX correction, see separate guidance	

BH ID	RBH503										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.09			
Start Time:	09:53	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	50									SmarTroll	<Select Probe
Well Material	HDPE	10:03	12.23	1423.90	1.72	6.75	-236.20	4.720		-30.02	
Initial Water Level (m)	4.695	10:06	12.46	1410.80	0.89	6.81	-272.10	4.720		-65.92	
		10:09	12.61	1408.70	0.70	6.83	-289.20	4.730		-83.85	
LNAPL Present? (Y/N)	n	10:12	12.68	1404.30	0.50	6.84	-298.60	4.730		-93.25	2.5L
Initial LNAPL Level (m)		10:15	12.77	1408.00	0.45	6.85	-303.30	4.730		-97.95	
Well Headspace Reading (PID/FID)	0.1	10:18	12.78	1407.40	0.37	6.85	-309.60	4.730		-104.25	
		10:21	12.83	1412.80	0.34	6.85	-313.80	4.730		-108.45	
Purge Method (Give details in Notes section)	LowFlow	10:24	12.84	1403.00	0.31	6.86	-319.40	4.730		-114.05	
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	8.700										
Depth to Base (m)	9.230	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.			Translucent, Red brown sediment						
DNAPL Present? (Y/N)	N	Sample Containers Obtained			4 x 500ml Glass, 1 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 1 x Vial						
Initial DNAPL Level (m)		Sample Collection Time									

BH ID	RBH502 P1										
Measurement Datum Notes:	***Top Of Cover* (TOC), *Ground Level* (GL), *Top Of Pipework* (TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.07			
Start Time:	11:27	Time	Temp	Sp.Cond	D.O.			Depth to	Turbidity	Corr. REDOX	Notes / Flow

WATER MONITORING FIELD SHEET

Monitoring Date: 13.11.2023	Measurement datum: GL / Top of pipe / Other _____	Offset to GL: (m) **-0.06**	Multi Meter Type & No	Probe Type	Calibration Check OK Date:-
Pre-Testing Remarks:	Air Temperature: 10 °C Weather: Overcast Ground Conditions: Wet Wind: NONE / LIGHT / MEDIUM / STRONG		YSI	pH	13.11.23
			19G102626	EC	13.11.23
				DO	13.11.23
				ORP	13.11.23
Exploratory Position ID: **RBH505**				TURB (ifReq)	
	Monitoring Round Number:1		Test Number:		

Install Type: SINGLE / DOUBLE		Pipe Ref: 1) SHALLOW / 2) DEEP	
Pipe Diameter: 19mm / 40mm / 50mm / Other 35 (mm)			
Test Sequence Stage 1 Water Level	Time of Monitoring hh:mm	Free Phase Product: Top Depth (m)	Free Phase Product: Base Depth (m)
	09:30	-	-

Water Depth (m)	**Well** Depth (m)
4.45	14.32

Stage 2 Sampling	:	Purge Method: Low Flow Peristaltic		Purge Water Discharged to: IBC
	:	Pump Intake Depth: 13.70 (m)		
	:	Hole Purged: Yes / No	Purge Start :	
	:	Purge Volume: ~2 (ltrs)	Purge End :	Pump Cell Tubing:

Stage 3 Purge Information

Time of Monitoring hh:mm	pH	ORP (mV)	Conductivity (uS/cm)	Temperature (Deg C)	Dissolved Oxygen (mg/l)	DTW(m)	
09:38	7.49	-42.80	786.00	11.9	0.84	4.62	
09:41	7.48	-35.50	785.00	11.8	0.84	4.99	
09:43	7.51	-49.20	789.00	11.9	0.66	5.28	
09:46	7.53	-52.80	791.00	12.0	0.60	5.59	
09:49	7.53	-54.80	790.00	11.9	0.54	5.89	
:							
:							
:							
:							
:							
:							
:							
:							

Post Test Remarks:

Note: Fieldsheets should include uncompensated ORP data from the meter. Post-processing standardisation to ORP are performed by the data processing team on entry into gINT.

Translucent Brown, PID 0.3ppm

Samples Taken: Yes — Gas / Water

Depth (from datum)	Sample Ref	Sample Type	Container
			2G,1P,1V,HN

STRUCTURAL SOILS	Contract Name: Dantzic Street	Contract Ref: 4328	Data Collected By:ML
	Project Manager / Engineer: Reece McGuinness	Page: 1 of 6	Checked:

WATER MONITORING FIELD SHEET

Monitoring Date: 13.11.2023	Measurement datum: GL / Top of pipe / Other _____	Offset to GL: (m) **-0.06**	Multi Meter Type & No	Probe Type	Calibration Check OK Date:-
Pre-Testing Remarks:	Air Temperature: 10 °C Weather: Overcast Ground Conditions: Wet Wind: NONE / LIGHT / MEDIUM / STRONG		YSI	pH	13.11.23
			19G102626	EC	13.11.23
				DO	13.11.23
				ORP	13.11.23
Exploratory Position ID: **RBH505**				TURB (ifReq)	
	Monitoring Round Number:1		Test Number:		
Install Type: SINGLE / DOUBLE		Pipe Ref: 1) SHALLOW / 2) DEEP			
Pipe Diameter: 19mm / 40mm / 50mm / Other (mm)					

Test Sequence Stage 1 Water Level	Time of Monitoring hh:mm	Free Phase Product Top Depth (m)	Free Phase Product Base Depth (m)	**Water** Depth (m)	**Well** Depth (m)
	11:17	-	-	4.26	11.79

	:	Purge Method: Low Flow Peristaltic		Purge Water Discharged to: IBC
	:	Pump Intake Depth: 11.50 (m)		
	:	Hole Purged: Yes / No	Purge Start :	
Stage 2 Sampling	:	Purge Volume: ~2 (ltrs)	Purge End :	Pump Cell Tubing:

Stage 3 Purge Information

Time of Monitoring hh:mm	pH	ORP (mV)	Conductivity (uS/cm)	Temperature (Deg C)	Dissolved Oxygen (mg/l)	DTW(m)	
11:18	7.58	-118.30	842.00	11.7	6.54	4.27	
11:21	7.32	-104.90	1564.00	11.8	2.02	4.27	
11:24	7.27	-110.40	1565.00	12.0	1.54	4.27	
11:27	7.25	-114.50	1571.00	12.1	0.97	4.27	
11:30	7.25	-117.30	1576.00	12.1	0.85	4.27	
11:33	7.25	-118.90	1582.00	12.1	0.80	4.27	
:							
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Post Test Remarks:

Note: Fieldsheets should include uncompensated ORP data from the meter. Post-processing standardisation to ORP are performed by the data processing team on entry into gINT.

Translucent Brown, PID 1.5ppm

Samples Taken: Yes — Gas / Water

Depth (from datum)	Sample Ref	Sample Type	Container
			4G(500ml),1P,

STRUCTURAL SOILS	Contract Name: Dantzic Street	Contract Ref: 4328	Data Collected By:ML
	Project Manager / Engineer: Reece McGuinness	Page: 2 of 6	Checked:

WATER MONITORING FIELD SHEET

Monitoring Date: 13.11.2023	Measurement datum: GL / Top of pipe / Other _____	Offset to GL: (m) **-0.09**	Multi Meter Type & No	Probe Type	Calibration Check OK Date:-
Pre-Testing Remarks:	Air Temperature: 10 °C Weather: Overcast Ground Conditions: Wet Wind: NONE / LIGHT / MEDIUM / STRONG		YSI	pH	13.11.23
			19G102626	EC	13.11.23
				DO	13.11.23
				ORP	13.11.23
Exploratory Position ID: **WS311**				TURB (ifReq)	
	Monitoring Round Number:1		Test Number:		

Install Type: SINGLE / DOUBLE		Pipe Ref: 1) SHALLOW / 2) DEEP	
Pipe Diameter: 19mm / 40mm / 50mm / Other		(mm)	
Test Sequence Stage 1 Water Level	Time of Monitoring hh:mm	Free Phase Product: Top Depth (m)	Free Phase Product: Base Depth (m)
	12:05	-	-

Water Depth (m)	**Well** Depth (m)			
0.31	1.50			

Stage 2 Sampling	:	Purge Method: Low Flow Peristaltic		Purge Water Discharged to: IBC
	:	Pump Intake Depth: 1.00 (m)		
	:	Hole Purged: Yes / No	Purge Start :	
	:	Purge Volume: ~2.5 (ltrs)	Purge End :	Pump Cell Tubing:

Stage 3 Purge Information

Time of Monitoring hh:mm	pH	ORP (mV)	Conductivity (uS/cm)	Temperature (Deg C)	Dissolved Oxygen (mg/l)	DTW(m)	
12:11	8.70	-124.50	8082.00	11.7	3.85	0.32	
12:14	8.83	-172.40	8231.00	11.5	0.94	0.32	
12:17	8.87	-196.80	8228.00	11.3	0.49	0.32	
12:20	8.86	-201.50	8224.00	11.2	0.42	0.32	
12:23	8.86	-205.80	8159.00	11.0	0.35	0.32	
12:26	8.87	-210.30	8075.00	10.8	0.30	0.32	
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Post Test Remarks:

Note: Fieldsheets should include uncompensated ORP data from the meter. Post-processing standardisation to ORP are performed by the data processing team on entry into gINT.

Translucent Dark Brown - lechate type. PID 0.2ppm

Samples Taken: Yes — Gas / Water

Depth (from datum)	Sample Ref	Sample Type	Container
			4G(500ml),1P,

STRUCTURAL SOILS	Contract Name: Dantzic Street	Contract Ref: 4328	Data Collected By:ML
	Project Manager / Engineer: Reece McGuinness	Page: 3 of 6	Checked:

WATER MONITORING FIELD SHEET

Monitoring Date: 13.11.2023	Measurement datum: GL / Top of pipe / Other _____	Offset to GL: (m)-0.15	Multi Meter Type & No	Probe Type	Calibration Check OK Date:-
Pre-Testing Remarks:	Air Temperature: 10 °C Weather: Overcast Ground Conditions: Wet Wind: NONE / LIGHT / MEDIUM / STRONG		YSI	pH	13.11.23
			19G102626	EC	13.11.23
				DO	13.11.23
				ORP	13.11.23
Exploratory Position ID: **RBH401**				TURB (ifReq)	
	Monitoring Round Number:		Test Number:		

Install Type: SINGLE / DOUBLE		Pipe Ref: 1) SHALLOW / 2) DEEP	
Pipe Diameter: 19mm / 40mm / 50mm / Other		(mm)	
Test Sequence Stage 1 Water Level	Time of Monitoring hh:mm	Free Phase Product: Top Depth (m)	Free Phase Product: Base Depth (m)
	13:20	-	-

Water Depth (m)	**Well** Depth (m)			
15.60	15.60			

Stage 2 Sampling	:	Purge Method: Bailer		Purge Water Discharged to:
	:	Pump Intake Depth: (m)		
	:	Hole Purged: Yes / No	Purge Start :	
	:	Purge Volume: (ltrs)	Purge End :	Pump Cell Tubing:

Stage 3 Purge Information

Time of Monitoring hh:mm	pH	ORP (mV)	Conductivity (uS/cm)	Temperature (Deg C)	Dissolved Oxygen (mg/l)	DTW(m)	
:							
:							
:							
:	**Borehole DRY**						
:							
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Post Test Remarks:
Note: Fieldsheets should include uncompensated ORP data from the meter. Post-processing standardisation to ORP are performed by the data processing team on entry into gINT. **PID 0ppm**

Samples Taken: Yes / No	Gas / Water		
Depth (from datum)	Sample Ref	Sample Type	Container
			1G,1P,1V,HN

STRUCTURAL SOILS	Contract Name: Dantzic Street	Contract Ref: 4328	Data Collected By:ML
	Project Manager / Engineer: Reece McGuinness	Page: 4 of 6	Checked:

WATER MONITORING FIELD SHEET

Monitoring Date: 13.11.2023	Measurement datum: GL / Top of pipe / Other _____	Offset to GL: (m)-0.05	Multi Meter Type & No	Probe Type	Calibration Check OK Date:-
Pre-Testing Remarks:	Air Temperature: 10 °C Weather: Overcast Ground Conditions: Wet Wind: NONE / LIGHT / MEDIUM / STRONG		YSI	pH	13.11.23
			19G102626	EC	13.11.23
				DO	13.11.23
				ORP	13.11.23
Exploratory Position ID: **RBH403**				TURB (ifReq)	
	Monitoring Round Number:		Test Number:		

Install Type: SINGLE / DOUBLE		Pipe Ref: 1) SHALLOW / 2) DEEP		
Pipe Diameter: 19mm / 40mm / 50mm / Other (mm)				
Test Sequence Stage 1 Water Level	Time of Monitoring hh:mm	Free Phase Product: Top Depth (m)	Free Phase Product: Base Depth (m)	**Water** Depth (m) / **Well** Depth (m)
	13:23	-	-	13.76 / 15.97

Stage 2 Sampling	:	Purge Method: Low Flow Peristaltic		Purge Water Discharged to:
	:	Pump Intake Depth: 1 (m)		
	:	Hole Purged: Yes / No	Purge Start :	
	:	Purge Volume: (ltrs)	Purge End :	Pump Cell Tubing:

Stage 3 Purge Information

Time of Monitoring hh:mm	pH	ORP (mV)	Conductivity (uS/cm)	Temperature (Deg C)	Dissolved Oxygen (mg/l)	DTW(m)	
	Insufficient water - no sampling						
:							
:							
:							
:							
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:							

Post Test Remarks:

Note: Fieldsheets should include uncompensated ORP data from the meter. Post-processing standardisation to ORP are performed by the data processing team on entry into gINT. **PID 0.1ppm**

Samples Taken: Yes / No — Gas / Water

Depth (from datum)	Sample Ref	Sample Type	Container

STRUCTURAL SOILS	Contract Name: Dantzic Street	Contract Ref: 4328	Data Collected By:ML
	Project Manager / Engineer: Reece McGuinness	Page: 5 of 6	Checked:

WATER MONITORING FIELD SHEET

Monitoring Date: 13.11.2023	Measurement datum: GL / Top of pipe / Other _____	Offset to GL: (m)-0.15	Multi Meter Type & No	Probe Type	Calibration Check OK Date:-
Pre-Testing Remarks:	Air Temperature: 10 °C Weather: Overcast Ground Conditions: Wet Wind: NONE / LIGHT / MEDIUM / STRONG		YSI	pH	13.11.23
			19G102626	EC	13.11.23
				DO	13.11.23
				ORP	13.11.23
Exploratory Position ID: **RBH305**				TURB (ifReq)	
	Monitoring Round Number:		Test Number:		

Install Type: SINGLE / DOUBLE		Pipe Ref: 1) SHALLOW / 2) DEEP	
Pipe Diameter: 19mm / 40mm / 50mm / Other		(mm)	
Test Sequence Stage 1 Water Level	Free Phase Product: Top Depth (m)	Free Phase Product: Base Depth (m)	**Water** Depth (m) / **Well** Depth (m)
Time of Monitoring hh:mm: 13:30	-	-	5.25 / 7.54

Stage 2 Sampling	Purge Method: Low Flow Peristaltic		Purge Water Discharged to: IBC
:	Pump Intake Depth: 7 (m)		
:	Hole Purged: Yes / No	Purge Start :	
:	Purge Volume: ~3 (ltrs)	Purge End :	Pump Cell Tubing:

Stage 3 Purge Information

Time of Monitoring hh:mm	pH	ORP (mV)	Conductivity (uS/cm)	Temperature (Deg C)	Dissolved Oxygen (mg/l)	DTW(m)	
13:35	8.09	-17.90	1067.00	12.6	4.91	5.27	
13:38	7.71	-8.10	938.00	12.7	4.59	5.27	
13:41	7.60	-2.30	904.00	13.0	4.40	5.28	
13:44	7.53	1.00	890.00	13.0	4.34	5.29	
13:47	7.49	3.00	879.00	13.1	4.34	5.30	
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Post Test Remarks:

Note: Fieldsheets should include uncompensated ORP data from the meter. Post-processing standardisation to ORP are performed by the data processing team on entry into gINT.

Translucent Brown with sediment. PID 0.0ppm

Samples Taken: Yes / No — Gas / Water

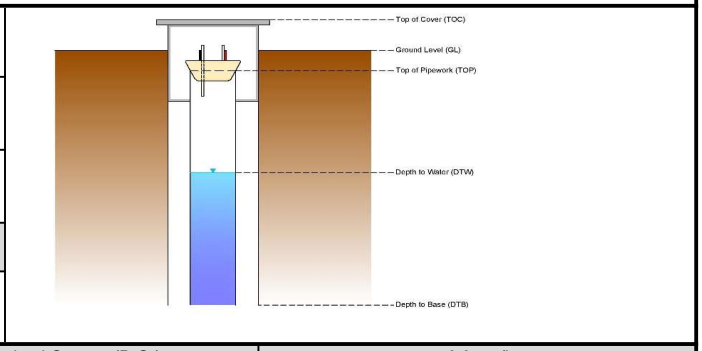
Depth (from datum)	Sample Ref	Sample Type	Container
			4G(500ml),1P,

STRUCTURAL SOILS	Contract Name: Dantzic Street	Contract Ref: 4328	Data Collected By:ML
	Project Manager / Engineer: Reece McGuinness	Page: 6 of 6	Checked:

Groundwater Sampling Data Form

This form is also available for RSK Mobile Data Capture.

Project Information	Project Name:	Dantzic Street		
	Project Number:	4328		
	Sampling Date:	20/11/2023	Sampled by:	IB
	Weather:	Inside 8C		
	Well Notes - e.g. Condition, access, safety:			

Monitoring Information	Water Quality Meter Used:	AquaTroll 978034		
	Water Quality Meter Last Calibrated:	20.11.23		
	Dissolved oxygen probe last calibrated:	20.11.23		
	Water Level Meter Used (X that applicable):			
	Interface probe: x	Dip Meter:		

Typical Parameter Stabilisation Criteria for Low-Flow Sampling		
	Dissolved Oxygen (D.O.)	0.3 mg/l
	Specific Conductivity (Sp.Cond)	3%
	p.H	0.1 unit
	Oxygen Reduction Potential (ORP)	10mV
	* For REDOX correction, see separate guidance	

BH ID	ROC BH502 P2										
Measurement Datum Notes:	***Top Of Cover*** **(TOC),** ***Ground Level*** **(GL),** ***Top Of Pipework*** **(TOP).** If 'Ground Level', the offset from datum to GL will be 0m. **Record a positive offset if the datum is higher than GL or a negative offset if the datum is below GL.** See figure above for definitions.										
Measurement Datum:	TOP						Offset from **datum** to GL (m):	-0.09			
Start Time:	09:53	Time (HH:MM)	Temp (oC)	Sp.Cond (µS/cm)	D.O. (mg/l)	pH (units)	ORP (mV)	Depth to Water (m)	Turbidity (NTU)	Corr. REDOX (mV)	Notes / Flow (ml/min)
Well Diameter (mm)	25									SmarTroll	<Select Probe
Well Material	HDPE	10:15	11.61	1025.80	3.32	7.24	-54.60	6.90		151.58	
Initial Water Level (m)	6.610	10:18	11.68	1025.00	2.40	7.24	-78.40	7.21		127.78	
LNAPL Present? (Y/N)	n										
Initial LNAPL Level (m)											
Well Headspace Reading (PID/FID)	0.0										
Purge Method (Give details in Notes section)	LowFlow										
Sampling Method (Give details in Notes section.)	Peristaltic										
Pump Intake Depth (m)	18.900										
Depth to Base (m)	19.410	Sampling Notes (e.g. oil/colour/odour), reasons if not monitored, include purge / sampling method if "Other" selected.		Translucent, Red brown sediment Sampled without stabilisation as water level dropping							
DNAPL Present? (Y/N)	n	Sample Containers Obtained		4 x 500ml Glass, 1 x 500ml Plastic, 1 x Red, 1 x Blue, 1 x Yellow, 1 x Vial							
Initial DNAPL Level (m)		Sample Collection Time									

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX F – EQUIPMENT CALIBRATION

Instrument Service Report

Unit Type: GA5000	Part Number:	Date:	Next Service Due:	Customer Name:
Serial Number: G507778	GA5KB0C0-101	27-Jul-2023	20-Jan-2024	RSK Environment Limited

Thank you for returning your gas analyser to the QED Service Centre for full service and calibration. We are pleased to inform you that the analyser was received and fully assessed by one of our experienced Service Engineers.

We have replaced the battery because it is over 2 years old. This is in accordance to the battery cell manufacturer's recommendation.

The CO and H2S electrochemical sensors have been replaced due to being over 2 years old in accordance with the manufacturer's recommendations, and also as a proactive measure based on our experience of the typical lifetime of these types of sensor.
Our extensive service was carried out, and any necessary components replaced. The analyser has successfully passed all of our rigorous testing and quality checks and has been calibrated using our bespoke, state of the art calibration facility.

For further information about how to get the best use from your instrument please visit our YouTube channel http://www.youtube.com/GeotechTV and on our Website http://www.qedenv.com

If you require any further assistance with your instrument please email our Technical Support Team at technical@qedenv.co.uk or call us on +44 (0) 333 800 0088 (Monday to Thursday 08.30 - 17.00 & Friday 08.30 - 15.30) UK time zone.

Service Details:		Service Engineer:	Calibration Engineer:	Approved By:	Signature:
Service Scheme	✓	Nick Sidgwick	Suk Balrey	FZolota	
Standard Service					

Instrument Service Report

Unit Type: GA5000	Part Number:	Date:	Next Service Due:	Customer Name:
Serial Number: G507778	GA5KB0C0-101	27-Jul-2023	20-Jan-2024	RSK Environment Limited

Actions/Investigation Description	Result	Comments
Final visual inspection on instrument	Pass	
Case assembly closed and screws tightened to correct torque	Yes	
PTFE filters replaced	Yes	
Pump flow greater than 550 ml/min	Pass	
Automated instrument pressure system test (leak test)	Pass	
Pump vacuum greater than -400 mb and flow fails	Pass	
GPS function test	NA	
Temperature probe tested	Pass	
Anemometer tested	Pass	
Chemical gas sensors calibrated – refer to Calibration Certificate	Retest Passed	
Check main PCB and sensor PCB have the latest software	Yes	
Transducers calibrated	Pass	
As Received Chemical Cell Gas Assessment Performed (CAL16)	Yes	
As Received Gas Assessment Performed (CAL01 or CAL02)	Yes	
Chemical sensor(s) replacement over 2yrs UK and 21mths overseas.	Yes	
O2 sensor replacement over 3yrs UK, 33mths overseas	Pass	

CERTIFICATION OF CALIBRATION

4533

Date Of Calibration: 20-Jul-2023

Certificate Number: G507778_2/33211

Issued by: QED Environmental Systems Ltd.

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

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

Non-UKAS accredited results after adjustment:

Barometer (mbar)	
Reference	**Instrument Reading**
1007	1007

Additional Gas Cells		
Gas	**Certified Gas (ppm)**	**Instrument Reading (ppm)**
CO	500	500
H_2S	258.8	259

Internal Flow	
Applied (l/hr)	**Instrument Reading (l/hr)**
5.0	5.1
10.0	10.0

Date of Issue : 27-Jul-2023 **Approved by Signatory**

Fani Zolota

Laboratory Inspection

End of Certificate

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

Calibration Instance:117 IGC Instance:117

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QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

ESS
Safety, Survey, Test & Measurement

RADIODETECTION

Certificate of Calibration

PASS

Product: CAT4
Serial Number: 10/C4EN59-4345
Order Number: 58214878 - SF64412

Date of Issue: 25/10/22
Calibration due date: 26/10/23

Customer :
ROC CONSULTING

Radiodetection Calibration Data:

Date of Calibration : 25/10/22

Location of Calibration:
ESS , 2 Speedwell Road , Castleford , West Yorkshire , WF10 5PY ,

Environmental Temperature: N/A
Test Procedure: CAT4 Universal ASC No GPS.xls

Relative Humidity: N/A
Revision: 6.6.1

Traceability Information:

Technician ID: Service

Calibration Equipment Used:

Model Number	Model Description	Serial Number	Last Cal Date	Cal Due Date
33120A	Agilent Function Generator	MY44040213	10/12/2021	10/12/2022
34401A	Keysight Digital Multimeter	MY530916797	10/12/2021	10/12/2022
QL355TP	Thurlby Thandar Power Supply	387516	10/12/2021	10/12/2022

Calibration Results:

Frequency	Measured Value	Measurement Uncertainty	High Limit	Low Limit	Pass/Fail
635.0	0.9835	0.0005	1.10	0.88	Pass
22070.0	1.0198	0.0005	1.10	0.88	Pass
32788.0	1.0288	0.0005	1.10	0.88	Pass
131000.0	0.9717	0.0005	1.10	0.88	Pass

1.
2.
3.

Authorised Signatories:

David Hurley - Operations Director

Chris Willerton - Quality Representative

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Sealand Survey Centre Limited
Unit 4, Expressway Business Park
Station Road, Queensferry
North Wales, CH5 2TF
Tel. 01244 821 777
Email. info@sealandsurvey.co.uk
Web. www.sealandsurvey.co.uk

CALIBRATION CERTIFICATE

Certificate No: S28455 **Date Inspected:** 12/10/2022

Date Of Issue: 12/10/2022 **Engineer:** Luke Barlow

Next Inspection due: 12/10/2023

This is to certify that the above equipment has been tested and calibrated to manufactures specifications.

Fleet No: RADGENNY4/01 **Description:** Radiodetection Genny 4 Signal Generator

Serial No: 10/G4EN-3842

Test	Result
Calibration	Pass

---

3 months warranty on any labour carried out by Sealand Survey Centre Limited
12 months new parts warranty on new parts supplied.
If a new part supplied by Sealand Survey Centre Limited fails after 3 months from date of fitting, labour is still charged

It is recommended that the user of this equipment has undergone the relevant training to ensure it is used in the correct and safe manner. Sealand Survey Centre Ltd accepts no liability for any injury or incident as a result of misuse.

CERTIFICATION OF CALIBRATION

4533

Date Of Calibration: 21-Mar-2023

Certificate Number: G503221_1/32470

Issued by: QED Environmental Systems Ltd.

Customer: **Structural Soils Limited**
Spring Lodge 172 Chester Road Helsby
Frodsham Cheshire WA6 0AR UNITED KINGDOM

Description: Gas Analyser

Model: GA5000

Serial Number: G503221

UKAS Accredited results:

Results after adjustment :

Methane (CH_4)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	4.9	0.072
15.0	15.0	0.13
60.0	59.8	0.42

Carbon Dioxide (CO_2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
5.0	5.0	0.074
15.0	15.0	0.13
40.0	40.2	0.29

Oxygen (O_2)		
Certified Gas (%)	**Instrument Reading (%)**	**Uncertainty (%)**
21.5	21.5	0.25

The inwards assessment was carried out 14-Mar-2023.
The maximum adjustment is larger than the specification limit.
Inwards assessment data is available if requested.

All concentrations are molar.

CH_4, CO_2 readings recorded at : 31.0 °C ± 2.5 °C

O2 readings recorded at : 22.6 °C ± 2.5 °C

Barometric Pressure : 0995 mbar ± 4 mbar

Method of Test : The analyser is calibrated in a temperature controlled chamber using a series of reference gases, in compliance with procedure LP004.

Instrument has passed calibration as the measurement result is within the specification limit. The specification limit takes into account the measurement uncertainty.
The results relate only to the item calibrated

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

Calibration Instance:117 IGC Instance:117

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QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

CERTIFICATION OF CALIBRATION

4533

Date Of Calibration: 21-Mar-2023

Certificate Number: G503221_1/32470

Issued by: QED Environmental Systems Ltd.

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

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

Non-UKAS accredited results after adjustment:

Barometer (mbar)	
Reference	**Instrument Reading**
995	996

Additional Gas Cells		
Gas	**Certified Gas (ppm)**	**Instrument Reading (ppm)**
CO	505	505
H_2S	52.6	53

Internal Flow	
Applied (l/hr)	**Instrument Reading (l/hr)**
5	5.2
10	10

Date of Issue : 22-Mar-2023 **Approved by Signatory**

Keeley Knight

Laboratory Inspection

End of Certificate

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

Calibration Instance:117 IGC Instance:117

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QED Environmental Systems Ltd. Cyan Park - Unit 3, Jimmy Hill Way, Coventry, CV2 4QP, UNITED KINGDOM

Registered in England and Wales 1898734

Instrument Service Report

Unit Type: GA5000	Part Number:	Date:	Next Service Due:	Customer Name:
Serial Number: G503221	GA5KB0B0-101	22-Mar-2023	21-Sep-2023	Structural Soils Limited

Customer Comments

Returned for full service and calibration

General Comments/Feedback

This instrument was tested against known certified gas values and the user calibration was seen to be worse than the factory calibration for the following channels: CO2 . Common reasons for this are an out of date or poor user calibration. Regular user calibrations carried out in accordance with our operating manual will help to optimise performance. For further information on user calibration please visit the FAQ section of our website.
Thank you for returning your gas analyser to the QED Service Centre for full service and calibration. We are pleased to inform you that the analyser was received and fully assessed by one of our experienced Service Engineers and no significant faults or issues were observed during the assessment. Our extensive service was carried out, and any necessary components replaced. The analyser has successfully passed all of our rigorous testing and quality checks and has been calibrated using our bespoke, state of the art calibration facility.
For further information about how to get the best use from your instrument please visit our YouTube channel http://www.youtube.com/GeotechTV and on our Website https://qedenv.com
We have replaced the battery because it is over 2 years old. This is in accordance to the battery cell manufacturer's recommendation.
The CO electrochemical sensor has been replaced due to it being over 2 years old in accordance with the manufacturer's recommendations, and also as a proactive measure based on our experience of the typical lifetime of this type of sensor.

If you require any further assistance with your instrument please email our Technical Support Team at technical@qedenv.co.uk or call us on +44 (0) 333 800 0088 (Monday to Thursday 08.30 - 17.00 & Friday 08.30 - 15.30) UK time zone.

Service Details:		Service Engineer:	Calibration Engineer:	Approved By:	Signature:
Service Scheme	✓	Ricky Cottrill	Suk Balrey	Anthony Ashbery	AC
Standard Service					

Instrument Service Report

Unit Type: GA5000	Part Number:	Date:	Next Service Due:	Customer Name:
Serial Number: G503221	GA5KB0B0-101	22-Mar-2023	21-Sep-2023	Structural Soils Limited

Actions/Investigation Description	Result	Comments
Case assembly closed and screws tightened to correct torque	Yes	
PTFE filters replaced	Yes	
Pump flow greater than 550 ml/min	Pass	
Automated instrument pressure system test (leak test)	Pass	
Pump vacuum greater than -400 mb and flow fails	Pass	
GPS function test	NA	
Temperature probe tested	Pass	
Anemometer tested	Pass	
Chemical gas sensors calibrated – refer to Calibration Certificate	Retest Passed	
Check main PCB and sensor PCB have the latest software	Yes	
Transducers calibrated	Pass	
As Received Chemical Cell Gas Assessment Performed (CAL16)	Yes	
As Received Gas Assessment Performed (CAL01 or CAL02)	Yes	
Chemical sensor(s) replacement over 2yrs UK and 21mths overseas.	Yes	CO Cell replaced
O2 sensor replacement over 3yrs UK, 33mths overseas	Pass	
Verification of Instrument		

Instrument Service Report

Unit Type: GA5000	Part Number:	Date:	Next Service Due:	Customer Name:
Serial Number: G503221	GA5KB0B0-101	22-Mar-2023	21-Sep-2023	Structural Soils Limited

Actions/Investigation Description	Result	Comments
Serial Number Check	Yes	
Battery Requires Replacing	Yes	Battery replaced
Internal Flow Calibrated	Yes	
Full Automatic Calibration	Pass	
Serial Comms Test (USB)	Pass	
Service history of instrument reviewed	Yes	
Inwards gas check data reviewed	Yes	
Instrument turns on	Pass	
Backlight operates correctly	Yes	
External visual inspection performed	Pass	
Internal visual inspection performed	Pass	
All screws tightened to correct torque	Yes	
All connectors are secure	Pass	
Check diagnostic channels	Pass	
Case compression test	Pass	
Impact and stability test	Pass	
Final visual inspection on instrument	Pass	

TEST DATE AND CONDITIONS		
Date	08/07/2022	
Atmospheric Pressure	1015	mB
Ambient Temperature	21.4	°C
Environics Serial No.	5089	

GAS DATA LTD

Unit 4, Fairfield Court

Seven Stars Estate

Wheler Rd

Coventry

CV3 4LJ

Tel 02476303311 Fax 02476307711

GFM436 Final Inspection & Calibration Check Certificate

Customer	ROC Consulting
Certificate Number	123330
Order Number	331480

Serial Number	12229
Software Version	G436-00.0027/0009

Recalibration DUE Date
08/07/23

Instrument Checks					
Keyboard	✓		Display Contrast	✓	
Pump Flow In	500	*Accept > 200 cc/min*	Pump Flow @ -200mB	250	*Accept > 200 cc/min*
Clock Set / Running	✓		Labels Fitted	✓	

Gas Checks						
	CH_4		CO_2		O_2	
	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %	Instrument Gas Readings %	True Gas Value %
Sensor	59.7	*60*	40.0	*40*	20.9	*20.9*
	Accept ±3.0		*Accept ±3.0*		*Accept ±0.5*	
	4.9	*5*	4.9	*5*	6.0	*6*
	Accept ±0.3		*Accept ±0.3*		*Accept ±0.3*	
Zero Reading 100% N2	0.0	*0*	0.0	*0*	0.0	*0*
	Accept ±0.0		*Accept ±0.0*		*Accept ±0.1*	

Optional Gas Checks						
Applied Gas & Range		Concentration Tested @ (ppm)	Instrument Readings *(ppm)*			
Gas Type	Range (*ppm*)		Zero Reading		Instrument Gas Reading	
H2S	5000	*1500*	0	*Accept ±0.0*	1500	*Accept ±5.0*
CO	2000	*1000*	0	*Accept ±0.0*	995	*Accept ±5.0*
Hexane	*2.0%*	2.0%	0	*Accept ±0.0*	1.99	*Accept ±10.0*

Cross Gas Effects									
Applied Gas *(ppm)*		Instrument Readings *(ppm)*							
Gas Type	Concentration	Toxic 1:	H2S	Toxic 2:	CO	Toxic 3:	HEX		
H2S	*1500*	1500		0		0			
CO	*1000*	50		995		0			
Hexane	*2.0%*	0		0		1.99			

Pressure Checks				
Atmospheric Pressure [AP] *(mB)*				
Current Atmospheric Pressure (mB)		Instrument Atmospheric Pressure Reading (mB)		
AP Open Ports		1015	*Accept ±2.0*	
AP Port (Internal)	*+800 mB*	800	*Accept ±5.0*	
	+1200mb	1200	*Accept ±5.0*	

Flow Checks					
Borehole Flow			Differential Pressure		
Applied Reading *(l/h)*	Instrument Reading *(l/h)*		Applied Pressure *(Pa)*	Instrument Reading *(Pa)*	
-30	-30.4	*Accept ±3.0*	-377	-383	*Accept ±50*
-3	-3.0	*Accept ±1.0*	-17	-17	*Accept ±6.0*
0	0.0	*Accept ±0.0*	0	0	*Accept ±0.5*
3	3.0	*Accept ±0.5*	15	14	*Accept ±3.0*
30	30.0	*Accept ±3.0*	295	294	*Accept ±50*
60	60.0	*Accept ±6.0*	880	876	*Accept ±130*
90	89.8	*Accept ±9.0*	1690	1703	*Accept ±250*

Temperature Checks		
Calibration Temperature Applied Temperature ^{0}C	Instrument Temperature Reading ^{0}C	
-10	-10.0	*Accept ±2.0*
0	0.0	*Accept ±1.0*
30	30.0	*Accept ±1.0*
60	60.0	*Accept ±1.0*
100	100.0	*Accept ±1.0*

Technician:	Date Tested:
Jack Rutland	*08/07/2022*

The instrument identified by the serial number stated above has been tested by Gas Data personnel for calibration accuracy on the date and under the ambient conditions stated. Gas Data Ltd internal BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018 compliant workshop procedures were followed to apply known calibration test gases, gas flow rates, pressures and temperatures of the values stated. The results displayed on the instrument at each stage are recorded above.

Gas Data Ltd is certified to BS EN ISO9001:2015, BS EN ISO14001:2015, BS EN ISO45001:2018.

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX G – WASTE ASSESSMENT

envirolab
Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	22/07379		
Issue Number:	1	Date:	8-Aug-22

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ

Project Manager:	Reece McGuinness
Project Name:	Plots NT02-NT04
Project Ref:	4328
Order No:	1781
Date Samples Received:	26-Jul-22
Date Instructions Received:	28-Jul-22
Date Analysis Completed:	8-Aug-22

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

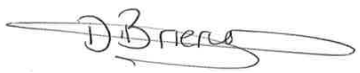
IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s), Clean-up - e.g. by florisil, silica gel, GC - Single coil gas chromatography, Aliphatics only

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

envirolab

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	22/07379/2				
Client Sample Number								
Client Sample ID				WS203				
Depth to Top				0.5				
Depth to Bottom								
Date Sampled				21/07/2022				
Sample Type				Soil - ES				
Sample Matrix Code				4AB				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**9.56**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.35**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.19**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**NDP**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**12.6**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**3.94**		100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**44**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1**	**10:1**	**Limit values for compliance leaching test using**		
				mg/l	**mg/kg**	**BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.014	**0.140**	0.5	2	25
Barium	A-T-025	N	N	0.007	**0.070**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.015	**0.150**	0.5	10	70
Copper	A-T-025	N	N	0.029	**0.290**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.036	**0.360**	0.5	10	30
Nickel	A-T-025	N	N	<0.002	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.002	**0.020**	0.5	10	50
Antimony	A-T-025	N	N	0.004	**0.040**	0.06	0.7	5
Selenium	A-T-025	N	N	0.006	**0.060**	0.1	0.5	7
Zinc	A-T-025	N	N	0.002	**0.020**	4	50	200
Chloride	A-T-026	N	N	20	**204**	800	15000	25000
Fluoride	A-T-026	N	N	<0.10	**<1**	10	150	500
Sulphate as SO_4	A-T-026	N	N	230	**2298**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	306	**3060**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<2.0	**<200**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	10.6				
Conductivity (µS/cm)	A-T-037	N	N	613				
Mass Sample (kg)				0.185				
Dry Matter (%)	A-T-044	N	N	94.7				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details						Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	22/07379/5				
Client Sample Number						Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				WS211				
Depth to Top				0.3				
Depth to Bottom								
Date Sampled				22/07/2022				
Sample Type				Soil - ES				
Sample Matrix Code				5ABE				
Solid Waste Analysis								
pH (pH Units)$_D$	A-T-031	N	N	**8.08**		-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.25**		-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.07**		-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**8.4**		-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**5.56**		3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**3.44**		100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**56**		500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**		1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**		6	-	-
Eluate Analysis				**10:1**	**10:1**	**Limit values for compliance leaching test using**		
				mg/l	**mg/kg**	**BS EN 12457-2 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.002	**0.020**	0.5	2	25
Barium	A-T-025	N	N	0.083	**0.830**	20	100	300
Cadmium	A-T-025	N	N	<0.001	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	<0.001	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.032	**0.320**	2	50	100
Mercury	A-T-025	N	N	<0.0005	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.004	**0.040**	0.5	10	30
Nickel	A-T-025	N	N	<0.002	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.023	**0.230**	0.5	10	50
Antimony	A-T-025	N	N	0.007	**0.070**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.057	**0.570**	4	50	200
Chloride	A-T-026	N	N	9	**89**	800	15000	25000
Fluoride	A-T-026	N	N	0.3	**3.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	16	**157**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	120	**1200**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	34.10	**341**	500	800	1000
Leach Test Information								
pH (pH Units)	A-T-031	N	N	8.5				
Conductivity (µS/cm)	A-T-037	N	N	240				
Mass Sample (kg)				0.223				
Dry Matter (%)	A-T-044	N	N	78.5				

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

envirolab
Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	23/03602
Issue Number:	1
Date:	4-May-23
Client:	ROCP LIMITED Commercial Wharf 6 Commercial Street Castlefield Manchester M15 4PZ
Project Manager:	Linden Richardson/Reece McGuinness
Project Name:	Plots NT02-04
Project Ref:	4328
Order No:	4328
Date Samples Received:	6-Apr-23
Date Instructions Received:	17-Apr-23
Date Analysis Completed:	4-May-23

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

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Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

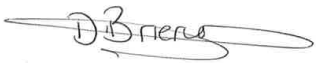
IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s), Clean-up - e.g. by florisil, silica gel, GC - Single coil gas chromatography, Aliphatics only

Approved by:



Danielle Brierley
Deputy Client Services Supervisor

envirolab

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03602/6						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				WS305						
Depth to Top				1						
Depth to Bottom										
Date Sampled				03/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				1A						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**10.39**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.35**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.17**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**NDP**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**2.03**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**17.2**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**79**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.018	0.009	0.040	**0.100**	0.5	2	25
Barium	A-T-025	N	N	0.030	0.019	0.067	**0.210**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.003	<0.001	0.007	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.063	0.013	0.140	**0.190**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.043	0.006	0.096	**0.100**	0.5	10	30
Nickel	A-T-025	N	N	0.002	<0.002	0.004	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.5	10	50
Antimony	A-T-025	N	N	0.002	0.001	0.004	**0.010**	0.06	0.7	5
Selenium	A-T-025	N	N	0.002	<0.001	0.004	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	<0.002	<0.002	<0.004	**<0.02**	4	50	200
Chloride	A-T-026	N	N	38	2	84	**64**	800	15000	25000
Fluoride	A-T-026	N	N	0.3	0.4	0.7	**4.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	952	155	2119	**2499**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	882	221	1964	**3016**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	22.3	<20.0	50	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	9.8	10.2					
Conductivity (µS/cm)	A-T-037	N	N	1764	442					
Mass Sample (kg)				0.215						
Dry Matter (%)	A-T-044	N	N	81.5						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03602/29						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				WS304						
Depth to Top				1						
Depth to Bottom										
Date Sampled				04/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				5A						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.73**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.21**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.19**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**6.4**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**3**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**0.92**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**<10**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.009	0.008	0.020	**0.080**	0.5	2	25
Barium	A-T-025	N	N	0.031	0.008	0.068	**0.110**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.003	<0.001	0.007	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.009	0.021	0.020	**0.200**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.026	0.005	0.057	**0.070**	0.5	10	30
Nickel	A-T-025	N	N	<0.002	<0.002	<0.004	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	<0.001	0.001	<0.002	**<0.01**	0.5	10	50
Antimony	A-T-025	N	N	0.003	0.002	0.007	**0.020**	0.06	0.7	5
Selenium	A-T-025	N	N	0.003	0.001	0.007	**0.010**	0.1	0.5	7
Zinc	A-T-025	N	N	<0.002	<0.002	<0.004	**<0.02**	4	50	200
Chloride	A-T-026	N	N	21	<1.00	46	**24**	800	15000	25000
Fluoride	A-T-026	N	N	0.3	0.2	0.6	**2.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	722	227	1583	**2882**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	762	250	1672	**3134**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	9.3	9.3					
Conductivity (µS/cm)	A-T-037	N	N	1524	500					
Mass Sample (kg)				0.209						
Dry Matter (%)	A-T-044	N	N	83.8						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03602/41						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				MP301						
Depth to Top				1						
Depth to Bottom										
Date Sampled				05/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4AE						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.01**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.38**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.05**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**8.2**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**3.2**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**5.83**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**418**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.112**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.001	<0.001	0.002	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.079	0.044	0.179	**0.490**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.036	0.558	0.082	**5.130**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.037	0.009	0.084	**0.120**	0.5	10	30
Nickel	A-T-025	N	N	0.018	<0.002	0.041	**0.020**	0.4	10	40
Lead	A-T-025	N	N	0.001	<0.001	0.002	**<0.01**	0.5	10	50
Antimony	A-T-025	N	N	0.011	0.005	0.025	**0.060**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.066	0.011	0.150	**0.180**	4	50	200
Chloride	A-T-026	N	N	6	<1.00	13	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	1.0	0.8	2.2	**9.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	1380	216	3129	**3548**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	1190	252	2698	**3659**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.8	7.9					
Conductivity (µS/cm)	A-T-037	N	N	2379	503					
Mass Sample (kg)				0.222						
Dry Matter (%)	A-T-044	N	N	78.9						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03602/42						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				MP302						
Depth to Top				1						
Depth to Bottom										
Date Sampled				05/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4ABDE						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.58**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.36**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.05**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**8.3**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**3.43**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**2.8**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**655**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.535**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.034	0.044	0.075	**0.440**	20	100	300
Cadmium	A-T-025	N	N	0.001	<0.001	0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.001	<0.001	0.002	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.102	0.032	0.225	**0.410**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.049	0.017	0.108	**0.210**	0.5	10	30
Nickel	A-T-025	N	N	0.098	0.013	0.216	**0.230**	0.4	10	40
Lead	A-T-025	N	N	0.002	<0.001	0.004	**<0.01**	0.5	10	50
Antimony	A-T-025	N	N	0.010	0.005	0.022	**0.060**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.844	0.088	1.864	**1.760**	4	50	200
Chloride	A-T-026	N	N	5	<1.00	10	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	1.0	0.9	2.1	**10.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	1590	395	3512	**5402**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	1376	437	3039	**5534**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.8	7.9					
Conductivity (µS/cm)	A-T-037	N	N	2751	875					
Mass Sample (kg)				0.211						
Dry Matter (%)	A-T-044	N	N	82.7						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03602/43						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				MP304						
Depth to Top				1						
Depth to Bottom										
Date Sampled				05/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4ADE						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**7.98**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.37**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.08**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**11.9**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**7.48**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**4.75**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**963**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.346**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	<0.005	<0.001	<0.002	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.037	0.041	0.081	**0.410**	20	100	300
Cadmium	A-T-025	N	N	0.006	0.001	0.013	**0.020**	0.04	1	5
Chromium	A-T-025	N	N	<0.005	<0.001	<0.002	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.205	0.062	0.449	**0.800**	2	50	100
Mercury	A-T-025	N	N	<0.0025	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.044	0.025	0.096	**0.280**	0.5	10	30
Nickel	A-T-025	N	N	0.283	0.039	0.620	**0.680**	0.4	10	40
Lead	A-T-025	N	N	<0.005	0.002	<0.002	**<0.01**	0.5	10	50
Antimony	A-T-025	N	N	0.017	0.009	0.037	**0.100**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.005	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	2.899	0.300	6.348	**6.030**	4	50	200
Chloride	A-T-026	N	N	35	3	76	**64**	800	15000	25000
Fluoride	A-T-026	N	N	1.9	1.4	4.2	**15.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	1920	460	4204	**6358**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	1813	525	3970	**6822**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.05	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.6	7.9					
Conductivity (µS/cm)	A-T-037	N	N	3625	1049					
Mass Sample (kg)				0.208						
Dry Matter (%)	A-T-044	N	N	84.1						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	23/03693
Issue Number:	1
Date:	5-May-23

Client: ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ
West Sussex,, RH15 9LR

Project Manager:	Reece McGuinness
Project Name:	Plots NT02-04
Project Ref:	4328
Order No:	4328
Date Samples Received:	14-Apr-23
Date Instructions Received:	19-Apr-23
Date Analysis Completed:	5-May-23

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s), Clean-up - e.g. by florisil, silica gel, GC - Single coil gas chromatography, Aliphatics only

Approved by:

Richard Wong
Client Manager

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03693/1						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP310						
Depth to Top				0.5						
Depth to Bottom										
Date Sampled				12/04/2023						
Sample Type				Solid						
Sample Matrix Code				7						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**7.64**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.05**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.02**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**52.5**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**31.2**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**7.05**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**833**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.741**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	IS	IS	IS	**IS**	0.5	2	25
Barium	A-T-025	N	N	IS	IS	IS	**IS**	20	100	300
Cadmium	A-T-025	N	N	IS	IS	IS	**IS**	0.04	1	5
Chromium	A-T-025	N	N	IS	IS	IS	**IS**	0.5	10	70
Copper	A-T-025	N	N	IS	IS	IS	**IS**	2	50	100
Mercury	A-T-025	N	N	IS	IS	IS	**IS**	0.01	0.2	2
Molybdenum	A-T-025	N	N	IS	IS	IS	**IS**	0.5	10	30
Nickel	A-T-025	N	N	IS	IS	IS	**IS**	0.4	10	40
Lead	A-T-025	N	N	IS	IS	IS	**IS**	0.5	10	50
Antimony	A-T-025	N	N	IS	IS	IS	**IS**	0.06	0.7	5
Selenium	A-T-025	N	N	IS	IS	IS	**IS**	0.1	0.5	7
Zinc	A-T-025	N	N	IS	IS	IS	**IS**	4	50	200
Chloride	A-T-026	N	N	IS	IS	IS	**IS**	800	15000	25000
Fluoride	A-T-026	N	N	IS	IS	IS	**IS**	10	150	500
Sulphate as SO_4	A-T-026	N	N	IS	IS	IS	**IS**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	IS	IS	IS	**IS**	4000	60000	100000
Phenol Index	A-T-050	N	N	IS	IS	IS	**IS**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	IS	IS	IS	**IS**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	IS	IS					
Conductivity (µS/cm)	A-T-037	N	N	IS	IS					
Mass Sample (kg)				0.286						
Dry Matter (%)	A-T-044	N	N	61.1						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03693/9						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP309						
Depth to Top				1						
Depth to Bottom										
Date Sampled				11/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4ABE						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.54**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.27**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.09**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**NDP**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**5.7**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**39.4**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**1180**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.008	0.004	0.018	**0.050**	0.5	2	25
Barium	A-T-025	N	N	0.074	0.039	0.164	**0.440**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.005	0.002	0.011	**0.020**	0.5	10	70
Copper	A-T-025	N	N	0.073	0.045	0.162	**0.490**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.138	0.024	0.306	**0.380**	0.5	10	30
Nickel	A-T-025	N	N	0.035	0.007	0.078	**0.100**	0.4	10	40
Lead	A-T-025	N	N	0.098	0.089	0.218	**0.920**	0.5	10	50
Antimony	A-T-025	N	N	0.040	0.018	0.089	**0.210**	0.06	0.7	5
Selenium	A-T-025	N	N	0.001	<0.001	0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.063	0.045	0.140	**0.480**	4	50	200
Chloride	A-T-026	N	N	101	13	224	**231**	800	15000	25000
Fluoride	A-T-026	N	N	1.4	0.8	3.0	**9.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	695	116	1542	**1843**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	1272	263	2823	**3841**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	60.2	<20.0	134	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	8.0	7.7					
Conductivity (µS/cm)	A-T-037	N	N	2544	525					
Mass Sample (kg)				0.213						
Dry Matter (%)	A-T-044	N	N	82						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03693/11						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP306						
Depth to Top				0.5						
Depth to Bottom										
Date Sampled				13/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4A						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.21**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.37**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.1**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**9.1**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**8.84**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**16.8**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**231**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.001	0.002	0.002	**0.020**	0.5	2	25
Barium	A-T-025	N	N	0.067	0.069	0.151	**0.700**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.002	0.001	0.004	**0.010**	0.5	10	70
Copper	A-T-025	N	N	0.008	0.008	0.018	**0.080**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.021	0.010	0.047	**0.120**	0.5	10	30
Nickel	A-T-025	N	N	<0.002	<0.002	<0.004	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.004	0.014	0.009	**0.130**	0.5	10	50
Antimony	A-T-025	N	N	0.020	0.016	0.045	**0.170**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.005	0.004	0.011	**0.040**	4	50	200
Chloride	A-T-026	N	N	<1.00	<1.00	<2	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	1.2	1.0	2.7	**10.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	75	52	169	**562**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	216	76	485	**939**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	8.0	7.5					
Conductivity (µS/cm)	A-T-037	N	N	431	151					
Mass Sample (kg)				0.218						
Dry Matter (%)	A-T-044	N	N	80.2						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03693/13						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP304						
Depth to Top				0.5						
Depth to Bottom										
Date Sampled				13/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4AE						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**7.81**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.82**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.09**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**7.6**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**6.63**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**10.9**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**106**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.004	0.004	0.009	**0.040**	0.5	2	25
Barium	A-T-025	N	N	0.134	0.043	0.304	**0.550**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.001	<0.001	0.002	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	0.023	0.013	0.052	**0.140**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.010	0.004	0.023	**0.050**	0.5	10	30
Nickel	A-T-025	N	N	0.003	<0.002	0.007	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.008	0.007	0.018	**0.070**	0.5	10	50
Antimony	A-T-025	N	N	0.382	0.205	0.866	**2.310**	0.06	0.7	5
Selenium	A-T-025	N	N	0.003	<0.001	0.007	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.128	0.012	0.290	**0.260**	4	50	200
Chloride	A-T-026	N	N	<1.00	<1.00	<2	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	0.8	0.7	1.7	**8.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	1010	191	2291	**2893**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	899	233	2039	**3154**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.7	7.5					
Conductivity (µS/cm)	A-T-037	N	N	1797	467					
Mass Sample (kg)				0.222						
Dry Matter (%)	A-T-044	N	N	78.9						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03693/15						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				TP301						
Depth to Top				0.5						
Depth to Bottom										
Date Sampled				13/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4AB						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.02**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.05**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.02**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**6**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**4.45**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**1.41**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**17**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.008	0.012	0.018	**0.120**	0.5	2	25
Barium	A-T-025	N	N	0.033	0.090	0.074	**0.860**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.002	0.003	0.004	**0.030**	0.5	10	70
Copper	A-T-025	N	N	0.009	0.029	0.020	**0.270**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.035	0.008	0.078	**0.110**	0.5	10	30
Nickel	A-T-025	N	N	<0.002	<0.002	<0.004	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.030	0.278	0.067	**2.560**	0.5	10	50
Antimony	A-T-025	N	N	0.008	0.004	0.018	**0.050**	0.06	0.7	5
Selenium	A-T-025	N	N	0.001	<0.001	0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.013	0.061	0.029	**0.570**	4	50	200
Chloride	A-T-026	N	N	3	5	7	**48**	800	15000	25000
Fluoride	A-T-026	N	N	0.5	0.7	1.2	**7.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	50	18	111	**222**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	151	52	337	**645**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.4	7.2					
Conductivity (µS/cm)	A-T-037	N	N	302	103					
Mass Sample (kg)				0.215						
Dry Matter (%)	A-T-044	N	N	81.4						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

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Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	23/03958
Issue Number:	1
Date:	10-May-23

Client:
ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ
HP3 9RT

Project Manager:	Linden Richardson/Reece McGuinness
Project Name:	Plots NT02 - NT04
Project Ref:	4328
Order No:	1858
Date Samples Received:	21-Apr-23
Date Instructions Received:	26-Apr-23
Date Analysis Completed:	10-May-23

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s), Clean-up - e.g. by florisil, silica gel, GC - Single coil gas chromatography, Aliphatics only

Approved by:



Richard Wong
Client Manager

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Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03958/2						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				RBH305						
Depth to Top				0.5						
Depth to Bottom										
Date Sampled				24/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4ABD						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.30**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.64**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.11**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**5**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**2.94**				3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**107**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**132**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1** mg/l	**8:1** mg/l	**2:1** mg/kg	**Cumulative 10:1** mg/kg	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
Arsenic	A-T-025	N	N	0.001	0.002	0.002	**0.020**	0.5	2	25
Barium	A-T-025	N	N	0.040	0.030	0.087	**0.320**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.001	<0.001	0.002	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	<0.004	0.006	<0.008	**<0.04**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.009	0.005	0.020	**0.060**	0.5	10	30
Nickel	A-T-025	N	N	<0.002	<0.002	<0.004	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.003	0.008	0.007	**0.080**	0.5	10	50
Antimony	A-T-025	N	N	0.006	0.004	0.013	**0.040**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.009	0.010	0.020	**0.100**	4	50	200
Chloride	A-T-026	N	N	<1.00	<1.00	<2	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	0.8	0.2	1.6	**3.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	9	<1.00	19	**10**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	81	42	176	**472**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.3	7.4					
Conductivity (µS/cm)	A-T-037	N	N	162	85					
Mass Sample (kg)				0.204						
Dry Matter (%)	A-T-044	N	N	85.7						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/03958/4						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				HP301						
Depth to Top				0.5						
Depth to Bottom										
Date Sampled				20/04/2023						
Sample Type				Soil - ES						
Sample Matrix Code				4AE						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**7.99**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.23**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.1**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**16**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**10.1**				3	5	6
PAH Sum of 17 (mg/kg) $_A$	A-T-019	N	N	**25.1**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**162**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.044**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	<0.001	0.001	<0.002	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.059	0.033	0.130	**0.370**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	0.004	0.004	0.009	**0.040**	0.5	10	70
Copper	A-T-025	N	N	0.012	0.012	0.026	**0.120**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.036	0.017	0.079	**0.200**	0.5	10	30
Nickel	A-T-025	N	N	0.003	<0.002	0.007	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.003	0.002	0.007	**0.020**	0.5	10	50
Antimony	A-T-025	N	N	0.010	0.006	0.022	**0.070**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.023	0.011	0.051	**0.130**	4	50	200
Chloride	A-T-026	N	N	<1.00	<1.00	<2	**<10**	800	15000	25000
Fluoride	A-T-026	N	N	0.8	0.6	1.7	**7.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	194	45	427	**630**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	280	107	616	**1289**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.4	7.3					
Conductivity (µS/cm)	A-T-037	N	N	560	214					
Mass Sample (kg)				0.210						
Dry Matter (%)	A-T-044	N	N	83.3						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	23/09229
Issue Number:	1
Date:	26-Sep-23
Client:	ROCP LIMITED Commercial Wharf 6 Commercial Street Castlefield Manchester M15 4PZ
Project Manager:	Linden Richardson
Project Name:	Plots NT02-04
Project Ref:	4328
Order No:	TBC
Date Samples Received:	18-Sep-23
Date Instructions Received:	18-Sep-23
Date Analysis Completed:	26-Sep-23

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

This report shall not be reproduced, except in full, without written approval from Envirolab.

Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s), Clean-up - e.g. by florisil, silica gel, GC - Single coil gas chromatography, Aliphatics only

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

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Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/09229/2						
Client Sample Number								Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample ID				RBH403						
Depth to Top				3.5						
Depth to Bottom										
Date Sampled				13/09/2023						
Sample Type				Soil - ES						
Sample Matrix Code				6AE						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.02**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.34**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.1**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**12.1**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**6.51**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**11.8**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**2050**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**0.355**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**0.08**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	0.002	<0.001	0.005	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.119	0.101	0.301	**1.080**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	<0.004	<0.004	<0.008	**<0.04**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.121	0.068	0.306	**0.780**	0.5	10	30
Nickel	A-T-025	N	N	0.048	0.019	0.121	**0.230**	0.4	10	40
Lead	A-T-025	N	N	0.001	<0.001	0.003	**<0.01**	0.5	10	50
Antimony	A-T-025	N	N	0.009	0.008	0.023	**0.090**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	0.022	0.012	0.056	**0.140**	4	50	200
Chloride	A-T-026	N	N	3	2	6	**24**	800	15000	25000
Fluoride	A-T-026	N	N	0.2	0.3	0.5	**3.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	258	274	653	**2863**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	79	44	200	**503**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.05	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	24.9	<20.0	63	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.3	7.5					
Conductivity (µS/cm)	A-T-037	N	N	158	87					
Mass Sample (kg)				0.267						
Dry Matter (%)	A-T-044	N	N	65.4						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

Units 7 & 8, Sandpits Business Park
Mottram Road, Hyde, Cheshire, SK14 3AR

Final Test Report

Envirolab Job Number:	23/09491
Issue Number:	1
Date:	10-Oct-23

Client:
ROCP LIMITED
Commercial Wharf 6 Commercial Street
Castlefield
Manchester
M15 4PZ
TN22 5QZ

Project Manager:	Reece McGuinness
Project Name:	Plots NT02 - NT04
Project Ref:	4328
Order No:	1910
Date Samples Received:	21-Sep-23
Date Instructions Received:	25-Sep-23
Date Analysis Completed:	10-Oct-23

Notes - Soil analysis

All results are reported as dry weight (<40°C).

For samples with Matrix Codes 1 - 6 natural stones >10mm are removed or excluded from the sample prior to analysis and reported results corrected to a whole sample basis.

For samples with Matrix Code 7 the whole sample is dried and crushed prior to analysis.

Notes - General

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Subscript "A" indicates analysis performed on the sample as received. "D" indicates analysis performed on the dried sample, crushed to pass a 2mm sieve, unless asbestos is found to be present in which case all analysis is performed on the sample as received.

All analysis is performed on the dried and crushed sample for samples with Matrix Code 7 and this supercedes any "A" subscripts.

All analysis is performed on the sample as received for soil samples from outside the European Union and this supercedes any "D" subscripts

For complex, multi-compound analysis, quality control results do not always fall within chart limits for every compound and we have criteria for reporting in these situations.

If results are in italic font they are associated with such quality control failures and may be unreliable.

A deviating samples report is appended and will indicate if samples or tests have been found to be deviating. Any test results affected may not be an accurate record of the concentration at the time of sampling and, as a result, may be invalid

Predominant Matrix Codes: 1 = SAND, 2 = LOAM, 3 = CLAY, 4 = LOAM/SAND, 5 = SAND/CLAY, 6 = CLAY/LOAM, 7 = OTHER, 8 = Asbestos bulk ID sample

Secondary Matrix Codes: A = contains stones, B = contains construction rubble, C = contains visible hydrocarbons, D = contains glass/metal, E = contains roots/twigs.

IS indicates Insufficient sample for analysis, NDP indicates No Determination Possible and NAD indicates No Asbestos Detected.

Analytical results reflect the quality of the sample at the time of analysis only. Opinions and interpretations expressed are outside the scope of our accreditation.

Please contact us if you need any further information.

HWOL TPH Code: EH_CU_1D_AL: Extractable hydrocarbons - i.e. everything extracted by the solvent(s), Clean-up - e.g. by florisil, silica gel, GC - Single coil gas chromatography, Aliphatics only

Approved by:



Gemma Berrisford
Deputy Client Services Supervisor

Landfill WAC analysis must not be used for hazardous waste classification purposes. This analysis is only applicable for landfill acceptance and does not give any indication as to whether a waste may be hazardous or non-hazardous.

Sample Details								Landfill Waste Acceptance Criteria Limits		
Lab Sample ID	Method	ISO17025	MCERTS	23/09491/4				Inert Waste Landfill	Stable Non-reactive Hazardous Waste in Non-Hazardous Landfill	Hazardous Waste Landfill
Client Sample Number										
Client Sample ID				RBH402						
Depth to Top				5.3						
Depth to Bottom										
Date Sampled				19/09/2023						
Sample Type				Soil - ES						
Sample Matrix Code				6AB						
Solid Waste Analysis										
pH (pH Units)$_D$	A-T-031	N	N	**8.22**				-	>6	-
ANC to pH 4 (mol/kg)$_D$	A-T-ANC	N	N	**0.09**				-	to be evaluated	to be evaluated
ANC to pH 6 (mol/kg)$_D$	A-T-ANC	N	N	**0.02**				-	to be evaluated	to be evaluated
Loss on Ignition (%)$_D$	A-T-030	N	N	**4.5**				-	-	10
Total Organic Carbon (%)$_D$	A-T-032	N	N	**2.11**				3	5	6
PAH Sum of 17 (mg/kg)$_A$	A-T-019	N	N	**<0.08**				100	-	-
Mineral Oil (mg/kg)$_{A\ EH\_CU\_1D\_AL}$	A-T-007	N	N	**<10**				500	-	-
Sum of 7 PCBs (mg/kg)$_A$	A-T-004	N	N	**<0.007**				1	-	-
Sum of BTEX (mg/kg)$_A$	A-T-022	N	N	**<0.01**				6	-	-
Eluate Analysis				**2:1**	**8:1**	**2:1**	**Cumulative 10:1**	**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)**		
				mg/l		**mg/kg**				
Arsenic	A-T-025	N	N	<0.001	0.001	<0.002	**<0.01**	0.5	2	25
Barium	A-T-025	N	N	0.027	0.037	0.060	**0.370**	20	100	300
Cadmium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.04	1	5
Chromium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.5	10	70
Copper	A-T-025	N	N	<0.004	0.005	<0.008	**<0.04**	2	50	100
Mercury	A-T-025	N	N	<0.0005	<0.0005	<0.001	**<0.005**	0.01	0.2	2
Molybdenum	A-T-025	N	N	0.016	0.007	0.036	**0.080**	0.5	10	30
Nickel	A-T-025	N	N	<0.002	0.004	<0.004	**<0.02**	0.4	10	40
Lead	A-T-025	N	N	0.003	0.054	0.007	**0.490**	0.5	10	50
Antimony	A-T-025	N	N	0.040	0.032	0.089	**0.340**	0.06	0.7	5
Selenium	A-T-025	N	N	<0.001	<0.001	<0.002	**<0.01**	0.1	0.5	7
Zinc	A-T-025	N	N	<0.002	0.003	<0.004	**<0.02**	4	50	200
Chloride	A-T-026	N	N	8	2	17	**28**	800	15000	25000
Fluoride	A-T-026	N	N	1.0	0.5	2.3	**5.0**	10	150	500
Sulphate as SO_4	A-T-026	N	N	203	31	454	**517**	1000	20000	50000
Total Dissolved Solids	A-T-035	N	N	315	77	705	**1060**	4000	60000	100000
Phenol Index	A-T-050	N	N	<0.01	<0.01	<0.02	**<0.1**	1	-	-
Dissolved Organic Carbon	A-T-032	N	N	<20.0	<20.0	<40	**<200**	500	800	1000
Leach Test Information										
pH (pH Units)	A-T-031	N	N	7.4	7.2					
Conductivity (µS/cm)	A-T-037	N	N	629	154					
Mass Sample (kg)				0.216						
Dry Matter (%)	A-T-044	N	N	80.9						
Stage 1										
Volume Leachant, L_2 (l)	A-T-046			0.350						
Filtered Eluate Volume, VE_1 (l)	A-T-046			0.200						
Stage 2										
Volume Leachant, L_8 (l)	A-T-046			1.400						

Stated acceptance limits are for guidance only and Envirolab cannot be held responsible for any discrepancies with current legislation

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
% Moisture	%						
pH (soil)		8.32	8.69	7.91	8.29	10.04	8.74
pH (leachate)							
Arsenic	mg/kg	44	13	18	40	26	8
Cadmium	mg/kg	3.3	2.0	5.2	3.6	2.4	2.1
Copper	mg/kg	144	84	148	162	206	1,140
CrVI or Chromium	mg/kg	32	25	39	37	21	27
Lead	mg/kg	284	391	847	386	7,660	261
Mercury	mg/kg	0.41	0.97	1.65	0.63	2.89	1.90
Nickel	mg/kg	37	21	37	45	32	26
Selenium	mg/kg	1	1	1	2	1	1
Zinc	mg/kg	836	356	557	440	419	334
Barium	mg/kg	169.00	271.00	376.00	213.00	179.00	282.00
Beryllium	mg/kg	2.0	0.7	0.9	1.6	1.2	0.7
Vanadium	mg/kg	42	29	39	42	29	32
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	5.00	2.00	5.00	10.00	4.00	2.00
Antimony	mg/kg	9	11	76	7	25	6
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.7	1.0	2.8	1.0	1.3	1.0
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	27.30	43.10	30.00	131.00	929.00	53.30
TPH							
Petrol	mg/kg						

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	501.0	1,200.0	3,660.0		1,340.0	
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	4	1	3	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2	0.2	0.2		0.2	0.2
Cresols	mg/kg	0.2	0.2	0.2		0.2	0.2
Xylenols	mg/kg	0.2	0.2	0.2		0.2	0.2
Resourcinol	mg/kg	0.2	0.2	0.2		0.2	0.2
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg	0.01	0.01	0.01		0.01	
Toluene	mg/kg	0.01	0.01	0.01		0.01	
Ethylbenzene	mg/kg	0.01	0.01	0.01		0.01	
Xylenes	mg/kg	0.01	0.01	0.01		0.01	

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Asbestos in Soil	Thresholds						
Asbestos detected in Soil (enter Y or N)	Y	N	Y	Y	Y	Y	N
		If Asbestos in Soil above is "Y", the soil is Hazardous Waste HP5 and H					
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%	0.00300		0.00700	0.00700	
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00000	0.00300	0.00000	0.00700	0.00700	0.00000
		If Asbestos in Soil above is "Y", but Asbestos % above is "<0.1%", the soil is Non Hazardous Waste. You can only use Asbestos %					
		cannot use Asbestos % results when visual identifiable pieces are pres					
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N	N	Y	N	N	N

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Ref. 1	TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2	0.50	0.30	1.20	0.20	0.50	0.40
Date	12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22

If visual identifiable pieces of asbestos are present, you cannot use Asbestos % results and the whole soil sample is Hazardous Was
05. Therefore, if Asbestos in Soil above is "**Y**", the Asbestos % above is "<0.1%", but the Asbestos Identifiable Pieces visibl

Identifiable Pieces are Cement, Fragments, Board, Rope etc. ie anything ACM that is

All visual asbestos pieces need to be removed leaving only fibres (or micro pieces) with an Asbestos % Composition in Soil re

Hazardous Property	Thresholds	Cut Off Value	**If cells below turn yellow and the text turns red, the samples should be classified a**					
Corrosive HP8	≥5%	<1%	0.02891	0.03368	0.04752	0.03368	0.02542	0.03450
Irritant HP4	≥10%	<1%	0.02964	0.01645	0.02612	0.03106	0.03195	0.13565
Irritant HP4	≥20%	<1%	0.02816	0.01869	0.02838	0.04273	0.12381	0.14004
Specifc Target Organ Toxicity HP5	≥1%		0.00075	0.00019	0.00056	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00748	0.00516	0.00694	0.01310	0.09290	0.00570
Specifc Target Organ Toxicity HP5	≥1%		0.00748	0.00516	0.00749	0.00909	0.00700	0.00570
Specifc Target Organ Toxicity HP5	≥10%		0.05010	0.12000	0.36600	0.03860	0.76600	0.02610
Aspiration Toxicity HP5	≥10%		0.05010	0.12000	0.36600	0.00000	0.13400	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00075	0.00019	0.00056	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00585	0.00181	0.00254	0.00534	0.00372	0.00125
Acute Toxicity HP6	≥5%	<0.1%	0.02416	0.03242	0.04570	0.02942	0.02268	0.03390
Acute Toxicity HP6	≥25%	<1%	0.06378	0.06385	0.12850	0.08777	0.89706	0.17215
Acute Toxicity HP6	≥0.25%	<0.1%	0.00079	0.00029	0.00073	0.00025	0.00048	0.00038
Acute Toxicity HP6	≥2.5%	<0.1%	0.00614	0.00480	0.00749	0.00710	0.00403	0.00518

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that cc

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			TP201	TP203	TP203	TP207	TP202	WS204
Ref. 1			0.50	0.30	1.20	0.20	0.50	0.40
Ref. 2								
Date			12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Acute Toxicity HP6	≥15%	<0.1%	0.00006	0.00006	0.00006	0.00000	0.00006	0.00006
Acute Toxicity HP6	≥55%	<1%	0.00141	0.00152	0.00964	0.00120	0.00324	0.00093
Acute Toxicity HP6	≥0.1%	<0.1%	0.00075	0.00019	0.00056	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00743	0.00542	0.00858	0.00826	0.00511	0.00590
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00016	0.00016	0.00028	0.00016	0.00016
Acute Toxicity HP6	≥22.5%	<1%	0.07652	0.08510	0.15344	0.09477	0.81881	0.19407
Carcinogenic HP7	≥0.1%		0.05010	**0.12000**	**0.36600**	0.03860	**0.76600**	0.02610
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00748	0.00516	0.00912	0.01310	0.09290	0.00570
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		8.32	8.69	7.91	8.29	10.04	8.74
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.32	8.69	7.91	8.29	10.04	8.74
Toxic for Reproduction HP10	≥0.3%		0.02840	0.03910	0.08470	0.03860	**0.76600**	0.02610
Toxic for Reproduction HP10	≥3%		0.05010	0.12000	0.36600	0.00748	0.13400	0.00570
Mutagenic HP11	≥0.1%		0.05010	**0.12000**	**0.36600**	0.01310	**0.13400**	0.00533
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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			TP201	TP203	TP203	TP207	TP202	WS204
Ref. 1			0.50	0.30	1.20	0.20	0.50	0.40
Ref. 2								
Date			12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00748	0.00516	0.00747	0.01310	0.09290	0.00570
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		4.0	1.0	3.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00747	0.00480	0.00749	0.01310	0.09290	0.00533
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.17261	0.10881	0.19280	0.14737	0.94936	0.21424

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Ref. 1			TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2			0.50	0.30	1.20	0.20	0.50	0.40
Date			12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.23114	0.23433	0.56619	0.15558	1.08911	0.22030

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If any calculation cells below state "0.00000", testing has NOT been undertaken that cc

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Ref. 1			TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2			0.50	0.30	1.20	0.20	0.50	0.40
Date			12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	17.84468	12.13402	23.01183	14.81936	**96.33160**	21.48285
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP201	TP203	TP203	TP207	TP202	WS204
Ref. 2		0.50	0.30	1.20	0.20	0.50	0.40
Date		12-Jul-22	12-Jul-22	12-Jul-22	13-Jul-22	13-Jul-22	13-Jul-22
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

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Ref. 1		WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2		1.40	0.30	0.60	2.50	1.50	0.50
Date		13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
% Moisture	%						
pH (soil)		7.97	10.56	7.88	7.81	7.16	9.56
pH (leachate)							
Arsenic	mg/kg	31	103	119	1	1	28
Cadmium	mg/kg	1.4	2.5	2.6	0.8	0.9	4.3
Copper	mg/kg	76	77	231	51	10	178
CrVI or Chromium	mg/kg	27	28	28	28	22	34
Lead	mg/kg	101	343	709	18	9	313
Mercury	mg/kg	0.17	4.47	1.52	0.67	0.17	0.39
Nickel	mg/kg	21	30	42	19	18	51
Selenium	mg/kg	1	1	2	1	1	1
Zinc	mg/kg	78	181	341	45	56	186
Barium	mg/kg	120.00	184.00	353.00	122.00	84.00	429.00
Beryllium	mg/kg	0.6	1.1	2.0	0.6	0.7	1.4
Vanadium	mg/kg	34	55	55	28	22	45
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	4.00	4.00	8.00	1.00	1.00	6.00
Antimony	mg/kg	5	5	8	5	5	6
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2		1.40	0.30	0.60	2.50	1.50	0.50
Date		13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	2.4	1.0	1.1	1.0	1.0	2.1
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	0.08	10.70	12.40	0.48	0.30	3.86
TPH							
Petrol	mg/kg						

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2		1.40	0.30	0.60	2.50	1.50	0.50
Date		13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg			157.0		22.0	90.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	1	1	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Cresols	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Xylenols	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Resourcinol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg			0.01		0.01	0.01
Toluene	mg/kg			0.01		0.01	0.01
Ethylbenzene	mg/kg			0.01		0.01	0.01
Xylenes	mg/kg			0.01		0.01	0.01

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initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows asso
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2		1.40	0.30	0.60	2.50	1.50	0.50
Date		13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2		1.40	0.30	0.60	2.50	1.50	0.50
Date		13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

		WS204	WS205	TP204	TP203	WS202	WS203
Ref. 1							
Ref. 2		1.40	0.30	0.60	2.50	1.50	0.50
Date		13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2		1.40	0.30	0.60	2.50	1.50	0.50
Date		13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2	1.40	0.30	0.60	2.50	1.50	0.50
Date	13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Asbestos in Soil	Thresholds					
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	N	**Y**
HP7						If A
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below						
%						
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
results where loose fibres or micro pieces are only present. You					If Asbestos in Soil above is "**Y**", but Asbestos % above is "<0.1%	
ent.						can
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N	N	N	N	N	N

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2	1.40	0.30	0.60	2.50	1.50	0.50
Date	13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22

te HP5 and HP7 Construction material containing Asbestos 17 06 If visual identifiable pieces of asbestos are present, you cannot us
le with the naked eye is "Y", the soil is Hazardous Waste. 05. Therefore, if Asbestos in Soil above is "Y", the Asbe

not Loose Fibres. Identifiable Pieces
sult of <0.1% for the soil to become non-hazardous waste. All visual asbestos pieces need to be removed leaving only

Hazardous Property	Thresholds	Cut Off Value	**s Hazardous Waste.**					**If cells below turn y**
Corrosive HP8	≥5%	<1%	0.02134	0.03743	0.05644	0.01777	0.01282	0.05318
Irritant HP4	≥10%	<1%	0.01881	0.03217	0.05168	0.01096	0.00526	0.03190
Irritant HP4	≥20%	<1%	0.01373	0.01695	0.03796	0.01009	0.00529	0.03236
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00605	0.00979	0.00979	0.00498	0.00392	0.00801
Specifc Target Organ Toxicity HP5	≥1%		0.00605	0.00979	0.00979	0.00538	0.00422	0.01030
Specifc Target Organ Toxicity HP5	≥10%		0.01010	0.03430	0.07090	0.00180	0.00220	0.03130
Aspiration Toxicity HP5	≥10%		0.00000	0.00000	0.01570	0.00000	0.00220	0.00900
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00411	0.01404	0.01586	0.00020	0.00015	0.00374
Acute Toxicity HP6	≥5%	<0.1%	0.01766	0.02448	0.04193	0.01805	0.01314	0.05027
Acute Toxicity HP6	≥25%	<1%	0.02975	0.06079	0.11776	0.01713	0.01032	0.07128
Acute Toxicity HP6	≥0.25%	<0.1%	0.00021	0.00064	0.00034	0.00026	0.00021	0.00023
Acute Toxicity HP6	≥2.5%	<0.1%	0.00518	0.00538	0.00538	0.00538	0.00422	0.00653

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2			1.40	0.30	0.60	2.50	1.50	0.50
Date			13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Acute Toxicity HP6	≥15%	<0.1%	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Acute Toxicity HP6	≥55%	<1%	0.00074	0.00085	0.00122	0.00068	0.00069	0.00115
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00561	0.00657	0.00670	0.00580	0.00465	0.00764
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00016	0.00030	0.00016	0.00016	0.00016
Acute Toxicity HP6	≥22.5%	<1%	0.04098	0.07725	0.15058	0.02859	0.01798	0.11263
Carcinogenic HP7	≥0.1%		0.01010	0.03430	0.07090	0.00538	0.00422	0.03130
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00605	0.00979	0.00979	0.00498	0.00392	0.00801
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		7.97	10.56	7.88	7.81	7.16	9.56
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		7.97	10.56	7.88	7.81	7.16	9.56
Toxic for Reproduction HP10	≥0.3%		0.01010	0.03430	0.07090	0.00384	0.00364	0.03130
Toxic for Reproduction HP10	≥3%		0.00605	0.00979	0.01570	0.00538	0.00422	0.00900
Mutagenic HP11	≥0.1%		0.00518	0.00538	0.01570	0.00538	0.00422	0.00900
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2			1.40	0.30	0.60	2.50	1.50	0.50
Date			13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00605	0.00979	0.00979	0.00498	0.00392	0.01030
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		1.0	1.0	1.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00518	0.00606	0.00848	0.00538	0.00422	0.01030
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.04247	0.09277	0.17134	0.02308	0.01751	0.09639

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2			1.40	0.30	0.60	2.50	1.50	0.50
Date			13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.04884	0.10311	0.19778	0.02838	0.02399	0.11409

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1			WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2			1.40	0.30	0.60	2.50	1.50	0.50
Date			13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	4.30886	9.37892	17.39642	2.35898	1.81376	9.81449
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS204	WS205	TP204	TP203	WS202	WS203
Ref. 2		1.40	0.30	0.60	2.50	1.50	0.50
Date		13-Jul-22	13-Jul-22	13-Jul-22	12-Jul-22	21-Jul-22	21-Jul-22
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2		3.00	0.40	1.20	1.80	3.10	0.50
Date		25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
% Moisture	%						
pH (soil)		9.76	8.55	8.32	7.97	8.88	10.38
pH (leachate)							
Arsenic	mg/kg	3	25	25	1	1	21
Cadmium	mg/kg	0.7	3.1	2.0	0.8	<0.5	1.2
Copper	mg/kg	12	129	102	11	4	70
CrVI or Chromium	mg/kg	11	24	49	33	13	19
Lead	mg/kg	14	370	6,640	31	17	191
Mercury	mg/kg	0.17	0.17	0.17	0.17	0.17	0.17
Nickel	mg/kg	12	48	38	25	10	28
Selenium	mg/kg	1	1	1	1	1	1
Zinc	mg/kg	26	849	112	84	24	205
Barium	mg/kg	58.00	355.00	154.00	103.00	37.00	159.00
Beryllium	mg/kg	0.8	0.5	1.0	1.0	0.7	0.7
Vanadium	mg/kg	15	21	35	36	19	28
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	1.00	2.00	3.00	1.00	1.00	2.00
Antimony	mg/kg	5	6	5	5	5	5
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2		3.00	0.40	1.20	1.80	3.10	0.50
Date		25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.0	1.0	1.0	1.3	1.0	1.6
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	67.30	6.21	38.70	130.00	997.00	246.00
TPH							
Petrol	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2		3.00	0.40	1.20	1.80	3.10	0.50
Date		25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	1,410.0	2,840.0	2,030.0	8,620.0	7,830.0	3,160.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	1	1	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Cresols	mg/kg	0.2	0.2	0.2	0.2	2.2	0.2
Xylenols	mg/kg	0.2	0.2	0.2	0.2	2.0	0.2
Resourcinol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01
Toluene	mg/kg	0.01	0.01	0.01	0.16	0.01	0.01
Ethylbenzene	mg/kg	0.01	0.01	0.02	0.35	0.01	0.01
Xylenes	mg/kg	0.01	0.01	0.03	0.65	0.02	0.01

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2		3.00	0.40	1.20	1.80	3.10	0.50
Date		25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2		3.00	0.40	1.20	1.80	3.10	0.50
Date		25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2		3.00	0.40	1.20	1.80	3.10	0.50
Date		25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2		3.00	0.40	1.20	1.80	3.10	0.50
Date		25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1	RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2	3.00	0.40	1.20	1.80	3.10	0.50
Date	25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23

Asbestos in Soil	Thresholds							
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	N	**Y**	

sbestos in Soil above is "**Y**", the soil is Hazardous Waste HP5 and HP7

Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%					0.00100
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00100

", the soil is Non Hazardous Waste. You can only use Asbestos % results where loose fibres or micro pieces are only present. You not use Asbestos % results when visual identifiable pieces are present.

Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y		N	N			N

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1	RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2	3.00	0.40	1.20	1.80	3.10	0.50
Date	25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23

e Asbestos % results and the whole soil sample is Hazardous Waste HP5 and HP7 Construction material containing Asbestos 17 06
stos % above is "<0.1%", but the Asbestos Identifiable Pieces visible with the naked eye is "Y", the soil is Hazardous Waste.

are Cement, Fragments, Board, Rope etc. ie anything ACM that is not Loose Fibres.
fibres (or micro pieces) with an Asbestos % Composition in Soil result of <0.1% for the soil to become non-hazardous waste.

Hazardous Property	Thresholds	Cut Off Value	**llow and the text turns red, the samples should be classified as Hazardous Waste.**					
Corrosive HP8	≥5%	<1%	0.00837	0.04347	0.02817	0.01683	0.00677	0.02238
Irritant HP4	≥10%	<1%	0.00450	0.02170	0.02114	0.00786	0.00443	0.01575
Irritant HP4	≥20%	<1%	0.01105	0.02545	0.02400	0.02000	0.10267	0.03881
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00673	0.00374	0.00623	0.01300	0.09970	0.02460
Specifc Target Organ Toxicity HP5	≥1%		0.00267	0.00970	0.00941	0.00641	0.00338	0.00566
Specifc Target Organ Toxicity HP5	≥10%		0.14100	0.28400	0.66400	0.86200	0.78300	0.31600
Aspiration Toxicity HP5	≥10%		0.14100	0.28400	0.20301	0.86212	0.78301	0.31600
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00041	0.00332	0.00332	0.00015	0.00015	0.00279
Acute Toxicity HP6	≥5%	<0.1%	0.00848	0.04054	0.02547	0.01729	0.00710	0.02007
Acute Toxicity HP6	≥25%	<1%	0.01527	0.06668	0.69412	0.02950	#VALUE!	0.06299
Acute Toxicity HP6	≥0.25%	<0.1%	0.00021	0.00021	0.00021	0.00021	0.00021	0.00021
Acute Toxicity HP6	≥2.5%	<0.1%	0.00211	0.00461	0.00941	0.00634	0.00250	0.00365

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

			RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 1			3.00	0.40	1.20	1.80	3.10	0.50
Ref. 2								
Date			25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Acute Toxicity HP6	≥15%	<0.1%	0.00006	0.00006	0.00006	0.00006	0.00044	0.00006
Acute Toxicity HP6	≥55%	<1%	0.00067	0.00103	0.00080	0.00075	#VALUE!	0.00072
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00256	0.00516	0.01008	0.00689	#VALUE!	0.00410
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00016	0.00016	0.00016	0.00016	0.00016
Acute Toxicity HP6	≥22.5%	<1%	0.01365	0.10051	0.70484	0.02620	0.01126	0.05355
Carcinogenic HP7	≥0.1%		**0.14100**	**0.28400**	**0.66400**	**0.86200**	**0.78300**	**0.31600**
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00673	0.00374	0.00623	0.01300	0.09970	0.02460
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		9.76	8.55	8.32	7.97	8.88	10.38
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		9.76	8.55	8.32	7.97	8.88	10.38
Toxic for Reproduction HP10	≥0.3%		0.00673	0.03700	**0.66400**	0.01300	0.09970	0.02460
Toxic for Reproduction HP10	≥3%		0.14100	0.28400	0.20300	0.86200	0.78300	0.31600
Mutagenic HP11	≥0.1%		**0.14100**	**0.28400**	**0.20300**	**0.86200**	**0.78300**	**0.31600**
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2		3.00	0.40	1.20	1.80	3.10	0.50
Date		25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%	0.00673	0.00970	0.00768	0.01300	0.09970	0.02460
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg	1.0	1.0	1.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg	0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%	0.00673	0.00970	0.00941	0.01300	0.09970	0.02460
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.01810	0.17660	0.71435	0.03981	#VALUE!	0.08980

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1			RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2			3.00	0.40	1.20	1.80	3.10	0.50
Date			25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.16218	0.46461	0.92408	0.90883	#VALUE!	0.41114

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Haswaste, developed by Dr. Iain Haslock.

			RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 1			3.00	0.40	1.20	1.80	3.10	0.50
Ref. 2								
Date			25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	3.24935	20.53856	**73.53007**	12.66806	#VALUE!	12.19134
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000



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00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	RBH203	WS303	WS303	WS303	WS303	WS305
Ref. 2	3.00	0.40	1.20	1.80	3.10	0.50
Date	25-Jul-22	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Persistent Organic Pollutant (Individual Dioxins+Furans) >0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2		1.00	0.60	1.00	2.00	0.70	1.90
Date		03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
% Moisture	%						
pH (soil)		10.39	9.46	8.43	8.35	8.29	8.22
pH (leachate)							
Arsenic	mg/kg	15	33	177	9	1	6
Cadmium	mg/kg	1.5	1.6	4.7	0.6	<0.5	0.7
Copper	mg/kg	109	212	202	15	17	13
CrVI or Chromium	mg/kg	24	25	24	14	30	13
Lead	mg/kg	381	503	269	40	30	9
Mercury	mg/kg	0.39	0.17	0.17	0.17	0.17	0.17
Nickel	mg/kg	51	29	106	17	29	17
Selenium	mg/kg	1	3	3	2	1	1
Zinc	mg/kg	388	669	675	51	48	33
Barium	mg/kg	511.00	402.00	314.00	58.00	125.00	49.00
Beryllium	mg/kg	1.1	0.7	0.8	0.5	0.8	0.5
Vanadium	mg/kg	33	31	35	17	30	17
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	6.00	2.00	7.00	1.00	1.00	1.00
Antimony	mg/kg	5	5	13	5	5	5
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Ref. 1		WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2		1.00	0.60	1.00	2.00	0.70	1.90
Date		03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.0	2.6	1.3	1.0	2.2	1.0
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	17.10	4.17	16.30	0.09	0.08	0.08
TPH							
Petrol	mg/kg						

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Ref. 1		WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2		1.00	0.60	1.00	2.00	0.70	1.90
Date		03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	227.0	349.0	1,810.0	67.0	1.0	3.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	2	2	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Cresols	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Xylenols	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Resourcinol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg	0.01	0.01	0.05	0.01	0.01	0.01
Toluene	mg/kg	0.01	0.01	0.05	0.01	0.01	0.01
Ethylbenzene	mg/kg	0.01	0.01	0.05	0.01	0.01	0.01
Xylenes	mg/kg	0.01	0.01	0.05	0.01	0.01	0.01

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Ref. 1		WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2		1.00	0.60	1.00	2.00	0.70	1.90
Date		03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2		1.00	0.60	1.00	2.00	0.70	1.90
Date		03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2		1.00	0.60	1.00	2.00	0.70	1.90
Date		03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2		1.00	0.60	1.00	2.00	0.70	1.90
Date		03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Ref. 1		WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2		1.00	0.60	1.00	2.00	0.70	1.90
Date		03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Asbestos in Soil	Thresholds						
Asbestos detected in Soil (enter Y or N)	Y	Y	Y	Y	N	N	N
		If Asbestos in Soil above is "Y", the soil is Hazardous Waste HP5 and H					
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	% 0.00100	0.00100	0.01300			
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00100	0.00100	0.01300	0.00000	0.00000	0.00000
		If Asbestos in Soil above is "Y", but Asbestos % above is "<0.1%", the soil is Non Hazardous Waste. You can only use Asbestos %					
		cannot use Asbestos % results when visual identifiable pieces are pres					
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N	N	N		N	

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Ref. 1	WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2	1.00	0.60	1.00	2.00	0.70	1.90
Date	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23

If visual identifiable pieces of asbestos are present, you cannot use Asbestos % results and the whole soil sample is Hazardous Was
05. Therefore, if Asbestos in Soil above is "**Y**", the Asbestos % above is "<0.1%", but the Asbestos Identifiable Pieces visibl

Identifiable Pieces are Cement, Fragments, Board, Rope etc. ie anything ACM that is
All visual asbestos pieces need to be removed leaving only fibres (or micro pieces) with an Asbestos % Composition in Soil re

Hazardous Property	Thresholds	Cut Off Value	**If cells below turn yellow and the text turns red, the samples should be classified a**					
Corrosive HP8	≥5%	<1%	0.05775	0.04942	0.05943	0.00974	0.01845	0.00825
Irritant HP4	≥10%	<1%	0.02025	0.03391	0.05250	0.00599	0.00747	0.00537
Irritant HP4	≥20%	<1%	0.02575	0.03087	0.04732	0.00554	0.00832	0.00531
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00038	0.00038	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00587	0.00552	0.00623	0.00303	0.00534	0.00303
Specifc Target Organ Toxicity HP5	≥1%		0.01030	0.00586	0.02141	0.00343	0.00586	0.00343
Specifc Target Organ Toxicity HP5	≥10%		0.03810	0.05030	0.18100	0.00670	0.00300	0.00090
Aspiration Toxicity HP5	≥10%		0.02270	0.03490	0.18102	0.00670	0.00010	0.00030
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00038	0.00038	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00202	0.00437	0.02338	0.00121	0.00015	0.00081
Acute Toxicity HP6	≥5%	<0.1%	0.05641	0.04580	0.03686	0.00906	0.01883	0.00783
Acute Toxicity HP6	≥25%	<1%	0.06907	0.08683	0.08105	0.01284	#VALUE!	0.00953
Acute Toxicity HP6	≥0.25%	<0.1%	0.00023	0.00039	0.00039	0.00021	0.00021	0.00021
Acute Toxicity HP6	≥2.5%	<0.1%	0.00461	0.00480	0.00461	0.00269	0.00576	0.00250

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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			WS305	WS308	WS308	WS308	WS309	WS309
Ref. 1			1.00	0.60	1.00	2.00	0.70	1.90
Ref. 2								
Date			03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Acute Toxicity HP6	≥15%	<0.1%	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Acute Toxicity HP6	≥55%	<1%	0.00075	0.00076	0.00204	0.00066	#VALUE!	0.00067
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00038	0.00038	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00530	0.00530	0.00546	0.00299	#VALUE!	0.00281
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00044	0.00044	0.00030	0.00016	0.00016
Acute Toxicity HP6	≥22.5%	<1%	0.11770	0.12583	0.10878	0.01796	0.02862	0.01373
Carcinogenic HP7	≥0.1%		0.03810	0.05030	**0.18100**	0.00670	0.00586	0.00343
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00587	0.00552	0.00623	0.00303	0.00534	0.00303
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		10.39	9.46	8.43	8.35	8.29	8.22
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		10.39	9.46	8.43	8.35	8.29	8.22
Toxic for Reproduction HP10	≥0.3%		0.03810	0.05030	0.02690	0.00400	0.00586	0.00343
Toxic for Reproduction HP10	≥3%		0.02270	0.03490	0.18100	0.00670	0.00576	0.00303
Mutagenic HP11	≥0.1%		0.02270	0.03490	**0.18100**	0.00670	0.00576	0.00250
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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			WS305	WS308	WS308	WS308	WS309	WS309
Ref. 1			1.00	0.60	1.00	2.00	0.70	1.90
Ref. 2								
Date			03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.01030	0.00586	0.02141	0.00343	0.00586	0.00343
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		1.0	2.0	2.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.01030	0.00586	0.02141	0.00343	0.00586	0.00343
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.11806	0.17431	0.18642	0.01996	#VALUE!	0.01366

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Ref. 1			WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2			1.00	0.60	1.00	2.00	0.70	1.90
Date			03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.14717	0.21509	0.37407	0.02995	#VALUE!	0.01726

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Ref. 1			WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2			1.00	0.60	1.00	2.00	0.70	1.90
Date			03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	12.09486	17.83678	20.51666	2.09374	#VALUE!	1.40014
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1	WS305	WS308	WS308	WS308	WS309	WS309
Ref. 2	1.00	0.60	1.00	2.00	0.70	1.90
Date	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23	03-Apr-23
Persistent Organic Pollutant (Individual Dioxins+Furans) >0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
% Moisture	%						
pH (soil)		8.40	8.45	7.97	7.42	7.71	8.51
pH (leachate)							
Arsenic	mg/kg	0	14	1	4	3	39
Cadmium	mg/kg	0.5	0.5	0.5	1.1	0.5	2.8
Copper	mg/kg	5	38	9	15	11	184
CrVI or Chromium	mg/kg	7	16	29	37	11	41
Lead	mg/kg	25	126	13	17	8	693
Mercury	mg/kg	0.17	0.34	0.17	0.17	0.17	1.49
Nickel	mg/kg	8	14	19	36	14	52
Selenium	mg/kg	1	1	2	1	1	3
Zinc	mg/kg	16	44	52	80	23	933
Barium	mg/kg	26.00	82.00	88.00	136.00	52.00	945.00
Beryllium	mg/kg	0.5	0.5	0.6	1.2	0.5	1.8
Vanadium	mg/kg	10	19	32	37	13	56
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	1.00	1.00	1.00	1.00	1.00	6.00
Antimony	mg/kg	5	5	5	5	5	7
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.0	2.1	1.9	1.0	1.0	1.7
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	0.08	4.54	0.08	0.08	0.08	133.00
TPH							
Petrol	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	1.0	144.0	1.0	1.0	1.0	10,400.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	1	1	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Cresols	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Xylenols	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Resourcinol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01
Toluene	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01
Ethylbenzene	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01
Xylenes	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01

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ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2	2.50	0.50	1.50	2.50	3.50	0.50
Date	03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23

Asbestos in Soil	Thresholds							
Asbestos detected in Soil (enter Y or N)	Y	N	**Y**	N	N	N	**Y**	
HP7								If A
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%		0.00300				0.00300
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%		0.00000	0.00300	0.00000	0.00000	0.00000	0.00300
results where loose fibres or micro pieces are only present. You						If Asbestos in Soil above is "**Y**", but Asbestos % above is "<0.1%		
ent.								can
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y		N	N			N	

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2	2.50	0.50	1.50	2.50	3.50	0.50
Date	03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23

te HP5 and HP7 Construction material containing Asbestos 17 06 05. If visual identifiable pieces of asbestos are present, you cannot us
le with the naked eye is "Y", the soil is Hazardous Waste. Therefore, if Asbestos in Soil above is "Y", the Asbe

not Loose Fibres. Identifiable Pieces

sult of <0.1% for the soil to become non-hazardous waste. All visual asbestos pieces need to be removed leaving only

Hazardous Property	Thresholds	Cut Off Value	**s Hazardous Waste.**					**If cells below turn y**
Corrosive HP8	≥5%	<1%	0.00400	0.01318	0.01456	0.02129	0.00777	0.10758
Irritant HP4	≥10%	<1%	0.00243	0.00960	0.00693	0.00889	0.00403	0.03599
Irritant HP4	≥20%	<1%	0.00259	0.00798	0.00531	0.00970	0.00448	0.04634
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00178	0.00338	0.00570	0.00659	0.00231	0.01330
Specifc Target Organ Toxicity HP5	≥1%		0.00178	0.00338	0.00570	0.00727	0.00283	0.01050
Specifc Target Organ Toxicity HP5	≥10%		0.00250	0.01440	0.00130	0.00170	0.00080	1.04000
Aspiration Toxicity HP5	≥10%		0.00010	0.01440	0.00010	0.00010	0.00010	1.04000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00002	0.00188	0.00015	0.00055	0.00041	0.00530
Acute Toxicity HP6	≥5%	<0.1%	0.00437	0.01170	0.01498	0.02145	0.00774	0.10368
Acute Toxicity HP6	≥25%	<1%	0.00714	0.02423	0.01253	0.01799	0.00786	0.12500
Acute Toxicity HP6	≥0.25%	<0.1%	0.00021	0.00022	0.00021	0.00021	0.00021	0.00034
Acute Toxicity HP6	≥2.5%	<0.1%	0.00134	0.00307	0.00557	0.00710	0.00211	0.00787

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.



initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows assc
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

			WS309	WS302	WS302	WS302	WS302	WS301
Ref. 1			2.50	0.50	1.50	2.50	3.50	0.50
Ref. 2								
Date			03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Acute Toxicity HP6	≥15%	<0.1%	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Acute Toxicity HP6	≥55%	<1%	0.00065	0.00065	0.00065	0.00071	0.00065	0.00112
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00164	0.00338	0.00591	0.00778	0.00241	0.00912
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00016	0.00030	0.00016	0.00016	0.00044
Acute Toxicity HP6	≥22.5%	<1%	0.00906	0.03131	0.02065	0.03086	0.01239	0.20507
Carcinogenic HP7	≥0.1%		0.00250	0.01440	0.00557	0.00727	0.00283	**1.04000**
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00178	0.00338	0.00570	0.00659	0.00231	0.01330
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		8.40	8.45	7.97	7.42	7.71	8.51
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.40	8.45	7.97	7.42	7.71	8.51
Toxic for Reproduction HP10	≥0.3%		0.00250	0.01260	0.00384	0.00727	0.00283	0.06930
Toxic for Reproduction HP10	≥3%		0.00178	0.01440	0.00570	0.00710	0.00231	1.04000
Mutagenic HP11	≥0.1%		0.00134	0.01440	0.00557	0.00710	0.00211	**1.04000**
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%	0.00178	0.00338	0.00570	0.00727	0.00283	0.01330
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg	1.0	1.0	1.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg	0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%	0.00162	0.00307	0.00557	0.00727	0.00283	0.01330
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.00845	0.03103	0.01892	0.02878	0.01068	0.24460

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2			2.50	0.50	1.50	2.50	3.50	0.50
Date			03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.01060	0.04908	0.02503	0.03606	0.01336	1.29543

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2			2.50	0.50	1.50	2.50	3.50	0.50
Date			03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.86458	3.28160	1.95130	2.94924	1.09282	**34.96659**
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS309	WS302	WS302	WS302	WS302	WS301
Ref. 2		2.50	0.50	1.50	2.50	3.50	0.50
Date		03-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2		1.50	2.50	3.50	4.50	0.50	1.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
% Moisture	%						
pH (soil)		8.83	9.52	8.42	7.03	7.07	6.86
pH (leachate)							
Arsenic	mg/kg	13	16	4	1	9	8
Cadmium	mg/kg	1.2	2.5	0.5	0.5	0.5	0.8
Copper	mg/kg	75	68	19	4	36	35
CrVI or Chromium	mg/kg	38	18	11	7	23	22
Lead	mg/kg	239	343	73	9	98	105
Mercury	mg/kg	0.27	0.90	0.44	0.17	0.17	0.17
Nickel	mg/kg	39	26	13	7	14	23
Selenium	mg/kg	2	1	1	1	1	1
Zinc	mg/kg	295	462	60	13	51	69
Barium	mg/kg	227.00	213.00	71.00	29.00	79.00	113.00
Beryllium	mg/kg	1.4	1.1	0.5	0.5	0.5	0.9
Vanadium	mg/kg	43	25	13	9	27	27
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	2.00	3.00	1.00	1.00	2.00	1.00
Antimony	mg/kg	5	5	5	5	5	5
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2		1.50	2.50	3.50	4.50	0.50	1.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.7	1.4	1.4	1.0	1.0	1.0
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	57.10	84.80	524.00	0.08	1.50	0.08
TPH							
Petrol	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2		1.50	2.50	3.50	4.50	0.50	1.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	679.0	310.0	4,060.0	1.0	30.0	10.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	1	1	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Cresols	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Xylenols	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Resourcinol	mg/kg	0.2	0.2	0.2	0.2	0.2	0.2
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01
Toluene	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01
Ethylbenzene	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01
Xylenes	mg/kg	0.01	0.01	0.01	0.01	0.01	0.01

ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2		1.50	2.50	3.50	4.50	0.50	1.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2		1.50	2.50	3.50	4.50	0.50	1.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2		1.50	2.50	3.50	4.50	0.50	1.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2		1.50	2.50	3.50	4.50	0.50	1.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2	1.50	2.50	3.50	4.50	0.50	1.50
Date	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Asbestos in Soil	Thresholds						
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	**Y**	N

sbestos in Soil above is "**Y**", the soil is Hazardous Waste HP5 and HP7

Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%				0.00100	
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%		0.00000	0.00000	0.00000	0.00000	0.00100	0.00000

", the soil is Non Hazardous Waste. You can only use Asbestos % results where loose fibres or micro pieces are only present. You not use Asbestos % results when visual identifiable pieces are present.

Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N				N	N

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2	1.50	2.50	3.50	4.50	0.50	1.50
Date	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23

e Asbestos % results and the whole soil sample is Hazardous Waste HP5 and HP7 Construction material containing Asbestos 17 06
stos % above is "<0.1%", but the Asbestos Identifiable Pieces visible with the naked eye is "Y", the soil is Hazardous Waste.

are Cement, Fragments, Board, Rope etc. ie anything ACM that is not Loose Fibres.
fibres (or micro pieces) with an Asbestos % Composition in Soil result of <0.1% for the soil to become non-hazardous waste.

Hazardous Property	Thresholds	Cut Off Value	**llow and the text turns red, the samples should be classified as Hazardous Waste.**					
Corrosive HP8	≥5%	<1%	0.03177	0.02693	0.00980	0.00444	0.01356	0.01664
Irritant HP4	≥10%	<1%	0.01793	0.01433	0.00507	0.00227	0.01014	0.00990
Irritant HP4	≥20%	<1%	0.02302	0.02239	0.05757	0.00228	0.00760	0.00919
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00765	0.00848	0.05240	0.00160	0.00481	0.00481
Specifc Target Organ Toxicity HP5	≥1%		0.00788	0.00525	0.00263	0.00160	0.00481	0.00481
Specifc Target Organ Toxicity HP5	≥10%		0.06790	0.03430	0.40600	0.00090	0.00980	0.01050
Aspiration Toxicity HP5	≥10%		0.06790	0.03100	0.40600	0.00010	0.00300	0.00100
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00174	0.00220	0.00057	0.00015	0.00121	0.00107
Acute Toxicity HP6	≥5%	<0.1%	0.03098	0.02546	0.00964	0.00467	0.01275	0.01614
Acute Toxicity HP6	≥25%	<1%	0.05436	0.06104	0.06746	0.00505	0.02232	0.02462
Acute Toxicity HP6	≥0.25%	<0.1%	0.00022	0.00028	0.00023	0.00021	0.00021	0.00021
Acute Toxicity HP6	≥2.5%	<0.1%	0.00730	0.00346	0.00211	0.00134	0.00442	0.00422

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

			WS301	WS301	WS301	WS301	WS306	WS306
Ref. 1			1.50	2.50	3.50	4.50	0.50	1.50
Ref. 2								
Date			04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Acute Toxicity HP6	≥15%	<0.1%	0.00006	0.00006	0.00006	0.00006	0.00006	0.00006
Acute Toxicity HP6	≥55%	<1%	0.00072	0.00085	0.00065	0.00065	0.00065	0.00068
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00808	0.00430	0.00243	0.00164	0.00471	0.00473
Acute Toxicity HP6	≥3.5%	<0.1%	0.00030	0.00016	0.00016	0.00016	0.00016	0.00016
Acute Toxicity HP6	≥22.5%	<1%	0.07061	0.07299	0.02149	0.00727	0.02940	0.03521
Carcinogenic HP7	≥0.1%		0.06790	0.03430	**0.40600**	0.00141	0.00980	0.01050
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00765	0.00848	0.05240	0.00160	0.00481	0.00481
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		8.83	9.52	8.42	7.03	7.07	6.86
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.83	9.52	8.42	7.03	7.07	6.86
Toxic for Reproduction HP10	≥0.3%		0.02390	0.03430	0.05240	0.00141	0.00980	0.01050
Toxic for Reproduction HP10	≥3%		0.06790	0.03100	0.40600	0.00160	0.00481	0.00481
Mutagenic HP11	≥0.1%		0.06790	0.03100	**0.40600**	0.00134	0.00442	0.00422
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2			1.50	2.50	3.50	4.50	0.50	1.50
Date			04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00788	0.00848	0.05240	0.00160	0.00481	0.00481
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		1.0	1.0	1.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00788	0.00848	0.05240	0.00141	0.00442	0.00465
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.09249	0.11972	0.07506	0.00629	0.02924	0.03346

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2			1.50	2.50	3.50	4.50	0.50	1.50
Date			04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.16872	0.15572	0.48364	0.00826	0.03732	0.03972

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2			1.50	2.50	3.50	4.50	0.50	1.50
Date			04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	10.00923	12.33042	11.58962	0.64700	3.00304	3.40677
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS301	WS301	WS301	WS301	WS306	WS306
Ref. 2		1.50	2.50	3.50	4.50	0.50	1.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2		2.50	0.50	1.00	1.50	2.50	3.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
% Moisture	%						
pH (soil)		6.60	7.09	8.73	5.93	6.46	6.09
pH (leachate)							
Arsenic	mg/kg	1	11	9	2	1	1
Cadmium	mg/kg	0.6	0.6	0.6	0.5	0.8	0.5
Copper	mg/kg	12	38	59	10	22	8
CrVI or Chromium	mg/kg	27	19	21	22	29	10
Lead	mg/kg	13	125	135	10	18	5
Mercury	mg/kg	0.17	0.46	0.33	0.17	0.17	0.17
Nickel	mg/kg	22	15	30	18	25	10
Selenium	mg/kg	1	1	1	1	1	1
Zinc	mg/kg	61	56	69	44	53	16
Barium	mg/kg	96.00	119.00	143.00	52.00	111.00	34.00
Beryllium	mg/kg	0.9	0.7	0.8	0.6	0.9	0.5
Vanadium	mg/kg	31	26	28	23	30	11
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	1.00	2.00	3.00	1.00	1.00	1.00
Antimony	mg/kg	5	5	5	5	5	5
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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Ref. 1		WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2		2.50	0.50	1.00	1.50	2.50	3.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.0	1.0	1.1	1.0	1.0	1.0
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	0.08	0.22	0.90	0.08	0.08	0.08
TPH							
Petrol	mg/kg						

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Ref. 1		WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2		2.50	0.50	1.00	1.50	2.50	3.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	1.0	37.0		1.0	1.0	1.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	1	1	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2	0.2		0.2	0.2	0.2
Cresols	mg/kg	0.2	0.2		0.2	0.2	0.2
Xylenols	mg/kg	0.2	0.2		0.2	0.2	0.2
Resourcinol	mg/kg	0.2	0.2		0.2	0.2	0.2
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg	0.01	0.01		0.01	0.01	0.01
Toluene	mg/kg	0.01	0.01		0.01	0.01	0.01
Ethylbenzene	mg/kg	0.01	0.01		0.01	0.01	0.01
Xylenes	mg/kg	0.01	0.01		0.01	0.01	0.01

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Ref. 1		WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2		2.50	0.50	1.00	1.50	2.50	3.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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Ref. 1		WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2		2.50	0.50	1.00	1.50	2.50	3.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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Ref. 1		WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2		2.50	0.50	1.00	1.50	2.50	3.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Ref. 1		WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2		2.50	0.50	1.00	1.50	2.50	3.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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Ref. 1		WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2		2.50	0.50	1.00	1.50	2.50	3.50
Date		04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Asbestos in Soil	Thresholds						
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	N	N
		If Asbestos in Soil above is "Y", the soil is Hazardous Waste HP5 and H					
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below						
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
		If Asbestos in Soil above is "Y", but Asbestos % above is "<0.1%", the soil is Non Hazardous Waste. You can only use Asbestos %					
		cannot use Asbestos % results when visual identifiable pieces are pres					
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y		N	N	N		

%

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Ref. 1	WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2	2.50	0.50	1.00	1.50	2.50	3.50
Date	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23

If visual identifiable pieces of asbestos are present, you cannot use Asbestos % results and the whole soil sample is Hazardous Was
05. Therefore, if Asbestos in Soil above is "**Y**", the Asbestos % above is "<0.1%", but the Asbestos Identifiable Pieces visibl

Identifiable Pieces are Cement, Fragments, Board, Rope etc. ie anything ACM that is
All visual asbestos pieces need to be removed leaving only fibres (or micro pieces) with an Asbestos % Composition in Soil re

Hazardous Property	Thresholds	Cut Off Value	**If cells below turn yellow and the text turns red, the samples should be classified a**					
Corrosive HP8	≥5%	<1%	0.01498	0.01706	0.01952	0.00975	0.01686	0.00551
Irritant HP4	≥10%	<1%	0.00709	0.01045	0.01284	0.00557	0.00804	0.00308
Irritant HP4	≥20%	<1%	0.00639	0.00799	0.01363	0.00522	0.00813	0.00333
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00552	0.00463	0.00498	0.00409	0.00534	0.00196
Specifc Target Organ Toxicity HP5	≥1%		0.00552	0.00463	0.00606	0.00422	0.00557	0.00202
Specifc Target Organ Toxicity HP5	≥10%		0.00130	0.01250	0.01350	0.00100	0.00180	0.00050
Aspiration Toxicity HP5	≥10%		0.00010	0.00370	0.00000	0.00010	0.00010	0.00010
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00015	0.00150	0.00122	0.00028	0.00015	0.00015
Acute Toxicity HP6	≥5%	<0.1%	0.01540	0.01607	0.01884	0.00990	0.01728	0.00575
Acute Toxicity HP6	≥25%	<1%	0.01331	0.02515	0.03196	0.01054	0.01539	0.00606
Acute Toxicity HP6	≥0.25%	<0.1%	0.00021	0.00023	0.00022	0.00021	0.00021	0.00021
Acute Toxicity HP6	≥2.5%	<0.1%	0.00518	0.00365	0.00403	0.00422	0.00557	0.00192

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2			2.50	0.50	1.00	1.50	2.50	3.50
Date			04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Acute Toxicity HP6	≥15%	<0.1%	0.00006	0.00006	0.00000	0.00006	0.00006	0.00006
Acute Toxicity HP6	≥55%	<1%	0.00066	0.00066	0.00066	0.00065	0.00068	0.00065
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00567	0.00407	0.00449	0.00456	0.00608	0.00222
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00016	0.00014	0.00016	0.00016	0.00016
Acute Toxicity HP6	≥22.5%	<1%	0.02222	0.03635	0.04551	0.01506	0.02578	0.00878
Carcinogenic HP7	≥0.1%		0.00518	0.01250	0.01350	0.00422	0.00557	0.00202
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00552	0.00463	0.00498	0.00409	0.00534	0.00196
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		6.60	7.09	8.73	5.93	6.46	6.09
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		6.60	7.09	8.73	5.93	6.46	6.09
Toxic for Reproduction HP10	≥0.3%		0.00444	0.01250	0.01350	0.00364	0.00505	0.00202
Toxic for Reproduction HP10	≥3%		0.00552	0.00463	0.00498	0.00422	0.00557	0.00196
Mutagenic HP11	≥0.1%		0.00518	0.00370	0.00403	0.00422	0.00557	0.00192
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2			2.50	0.50	1.00	1.50	2.50	3.50
Date			04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00552	0.00463	0.00606	0.00409	0.00534	0.00202
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		1.0	1.0	1.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00518	0.00365	0.00606	0.00422	0.00557	0.00202
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.02048	0.03240	0.04058	0.01618	0.02212	0.00790

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Ref. 1			WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2			2.50	0.50	1.00	1.50	2.50	3.50
Date			04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.02655	0.04109	0.04593	0.02069	0.02801	0.01023

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2			2.50	0.50	1.00	1.50	2.50	3.50
Date			04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	2.10639	3.32518	4.11189	1.66108	2.26861	0.81146
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	WS306	WS304	WS304	WS304	WS304	WS304
Ref. 2	2.50	0.50	1.00	1.50	2.50	3.50
Date	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23	04-Apr-23
Persistent Organic Pollutant (Individual Dioxins+Furans) >0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2		0.40	0.50	1	4.5	2.10	1.20
Date		04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
% Moisture	%						
pH (soil)		9.12	8.30	10.59	7.24	9.31	8.16
pH (leachate)							
Arsenic	mg/kg	8	8	13	1	1	17
Cadmium	mg/kg	0.6	1.3	0.6	0.5	0.5	0.5
Copper	mg/kg	77	81	20	7	12	70
CrVI or Chromium	mg/kg	23	30	3,610	6	9	23
Lead	mg/kg	177	204	0	0	7	139
Mercury	mg/kg	0.51	1.04	0.17	0.17	0.17	0.21
Nickel	mg/kg	52	20	25	7	8	27
Selenium	mg/kg	1	1	1	1	1	1
Zinc	mg/kg	89	274	158	16	22	78
Barium	mg/kg	195.00	274.00				
Beryllium	mg/kg	0.8	0.6				
Vanadium	mg/kg	32	21				
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	10.00	3.00				
Antimony	mg/kg	5	6				
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2		0.40	0.50	1	4.5	2.10	1.20
Date		04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.0	1.0				
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	1.11	106.00	32.50	3.78	71.60	0.11
TPH							
Petrol	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2		0.40	0.50	1	4.5	2.10	1.20
Date		04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	81.0		395.0	327.0	657.0	71.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	1	1	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2		0.2	0.2	0.2	0.2
Cresols	mg/kg	0.2					
Xylenols	mg/kg	0.2					
Resourcinol	mg/kg	0.2					
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg	0.01		0.01	0.01	0.01	0.01
Toluene	mg/kg	0.01		0.01	0.01	0.01	0.01
Ethylbenzene	mg/kg	0.01		0.01	0.01	0.01	0.01
Xylenes	mg/kg	0.01		0.01	0.01	0.01	0.01

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ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

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Ref. 1		WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2		0.40	0.50	1	4.5	2.10	1.20
Date		04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2		0.40	0.50	1	4.5	2.10	1.20
Date		04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2		0.40	0.50	1	4.5	2.10	1.20
Date		04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2		0.40	0.50	1	4.5	2.10	1.20
Date		04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1	WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2	0.40	0.50	1	4.5	2.10	1.20
Date	04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Asbestos in Soil	Thresholds					
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	N	N
HP7						If A
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below						
%							
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
results where loose fibres or micro pieces are only present. You					If Asbestos in Soil above is "Y", but Asbestos % above is "<0.1%		
ent.							can
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N	N	N		N	

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Ref. 1	WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2	0.40	0.50	1	4.5	2.10	1.20
Date	04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23

te HP5 and HP7 Construction material containing Asbestos 17 06 05. If visual identifiable pieces of asbestos are present, you cannot us
le with the naked eye is "Y", the soil is Hazardous Waste. Therefore, if Asbestos in Soil above is "Y", the Asbe

not Loose Fibres. Identifiable Pieces

sult of <0.1% for the soil to become non-hazardous waste. All visual asbestos pieces need to be removed leaving only

Hazardous Property	Thresholds	Cut Off Value	s Hazardous Waste.					If cells below turn y
Corrosive HP8	≥5%	<1%	0.02503	0.03422	0.69486	0.00130	0.00188	0.00668
Irritant HP4	≥10%	<1%	0.01553	0.01395	0.00400	0.00094	0.00151	0.01017
Irritant HP4	≥20%	<1%	0.02120	0.02452	0.01056	0.00259	0.01014	0.01338
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00570	0.01060	0.00325	0.00038	0.00716	0.00001
Specifc Target Organ Toxicity HP5	≥1%		0.01050	0.00576	0.69312	0.00141	0.00173	0.00545
Specifc Target Organ Toxicity HP5	≥10%		0.01770	0.02040	0.03950	0.03270	0.06570	0.01390
Aspiration Toxicity HP5	≥10%		0.00810	0.00000	0.03950	0.03270	0.06570	0.00710
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00111	0.00116	0.00173	0.00015	0.00015	0.00227
Acute Toxicity HP6	≥5%	<0.1%	0.02448	0.03357	0.69328	0.00131	0.00189	0.00458
Acute Toxicity HP6	≥25%	<1%	0.04339	0.04878	0.01064	0.00265	0.01088	0.02733
Acute Toxicity HP6	≥0.25%	<0.1%	0.00024	0.00029	0.00021	0.00021	0.00021	0.00021
Acute Toxicity HP6	≥2.5%	<0.1%	0.00442	0.00576	0.69312	0.00115	0.00173	0.00442

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.



initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows assc
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

			WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 1			0.40	0.50	1	4.5	2.10	1.20
Ref. 2								
Date			04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Acute Toxicity HP6	≥15%	<0.1%	0.00006	0.00000	0.00002	0.00002	0.00002	0.00002
Acute Toxicity HP6	≥55%	<1%	0.00066	0.00085	0.00006	0.00005	0.00005	0.00005
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00489	0.00627	**0.69320**	0.00122	0.00180	0.00449
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00014	0.00016	0.00016	0.00016	0.00016
Acute Toxicity HP6	≥22.5%	<1%	0.06210	0.06473	0.00733	0.00222	0.00367	0.02727
Carcinogenic HP7	≥0.1%		0.01770	0.02040	**0.69312**	0.03270	0.06570	0.01390
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00570	0.01060	0.00325	0.00038	0.00716	0.00001
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		9.12	8.30	10.59	7.24	9.31	8.16
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		9.12	8.30	10.59	7.24	9.31	8.16
Toxic for Reproduction HP10	≥0.3%		0.01770	0.02040	0.00505	0.00141	0.00716	0.01390
Toxic for Reproduction HP10	≥3%		0.00810	0.00576	0.69312	0.03270	0.06570	0.00710
Mutagenic HP11	≥0.1%		0.00810	0.01060	**0.69312**	0.03270	0.06570	0.00710
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2			0.40	0.50	1	4.5	2.10	1.20
Date			04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.01050	0.01060	0.00505	0.00141	0.00716	0.00545
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		1.0	1.0	1.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.01050	0.01060	0.69312	0.00141	0.00716	0.00545
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.05407	0.08582	0.72557	0.00628	0.01584	0.04409

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2			0.40	0.50	1	4.5	2.10	1.20
Date			04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.06828	0.08983	0.76509	0.03900	0.08156	0.05121

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2			0.40	0.50	1	4.5	2.10	1.20
Date			04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	5.54751	8.62232	**72.95210**	0.95520	2.24100	4.47970
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	WS307	RBH305	RBH502	RBH502	RBH505	RBH503
Ref. 2	0.40	0.50	1	4.5	2.10	1.20
Date	04-Apr-23	24-Apr-23	03-Nov-23	07-Nov-23	31-Oct-23	31-Oct-23
Persistent Organic Pollutant (Individual Dioxins+Furans) >0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2		4.00	0.80	2.00	1.50	1.90	3.10
Date		31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
% Moisture	%						
pH (soil)		8.40	8.05	7.76	7.94	7.38	7.89
pH (leachate)							
Arsenic	mg/kg	1	3	3	91	20	2
Cadmium	mg/kg	0.5	0.5	0.5	1.4	0.5	0.5
Copper	mg/kg	6	16	12	1,700	112	11
CrVI or Chromium	mg/kg	8	26	15	16	30	13
Lead	mg/kg	6	22	8	44,100	3,020	54
Mercury	mg/kg	0.17	0.17	0.17	2.66	0.17	0.17
Nickel	mg/kg	6	26	18	38	30	13
Selenium	mg/kg	1	1	1	1	1	1
Zinc	mg/kg	21	59	32	502	107	25
Barium	mg/kg						
Beryllium	mg/kg						
Vanadium	mg/kg						
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg						
Antimony	mg/kg						
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2		4.00	0.80	2.00	1.50	1.90	3.10
Date		31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg						
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	1.23	0.08	0.08	1310.00	1750.00	257.00
TPH							
Petrol	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2		4.00	0.80	2.00	1.50	1.90	3.10
Date		31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	12.0	2.0	2.0	11,900.0	14,500.0	484.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	1	1	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg	0.2	0.2	0.2	0.7	0.9	0.5
Cresols	mg/kg						
Xylenols	mg/kg						
Resourcinol	mg/kg						
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg	0.01	0.01	0.01	0.05	0.05	0.01
Toluene	mg/kg	0.01	0.01	0.01	0.05	0.05	0.01
Ethylbenzene	mg/kg	0.01	0.01	0.01	0.12	0.09	0.02
Xylenes	mg/kg	0.01	0.01	0.01	0.14	0.08	0.02

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2		4.00	0.80	2.00	1.50	1.90	3.10
Date		31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2		4.00	0.80	2.00	1.50	1.90	3.10
Date		31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2		4.00	0.80	2.00	1.50	1.90	3.10
Date		31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2		4.00	0.80	2.00	1.50	1.90	3.10
Date		31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
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Haswaste, developed by Dr. Iain Haslock.

Ref. 1	RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2	4.00	0.80	2.00	1.50	1.90	3.10
Date	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Asbestos in Soil	Thresholds					
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	N	N

sbestos in Soil above is "**Y**", the soil is Hazardous Waste HP5 and HP7

Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below					
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

%

", the soil is Non Hazardous Waste. You can only use Asbestos % results where loose fibres or micro pieces are only present. You not use Asbestos % results when visual identifiable pieces are present.

Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y				N	N	N

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2	4.00	0.80	2.00	1.50	1.90	3.10
Date	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23

se Asbestos % results and the whole soil sample is Hazardous Waste HP5 and HP7 Construction material containing Asbestos 17 06
stos % above is "<0.1%", but the Asbestos Identifiable Pieces visible with the naked eye is "Y", the soil is Hazardous Waste.

are Cement, Fragments, Board, Rope etc. ie anything ACM that is not Loose Fibres.
fibres (or micro pieces) with an Asbestos % Composition in Soil result of <0.1% for the soil to become non-hazardous waste.

Hazardous Property	Thresholds	Cut Off Value	ellow and the text turns red, the samples should be classified as Hazardous Waste.					
Corrosive HP8	≥5%	<1%	0.00169	0.00541	0.00330	0.01515	0.00849	0.00281
Irritant HP4	≥10%	<1%	0.00083	0.00222	0.00177	0.20418	0.01539	0.00156
Irritant HP4	≥20%	<1%	0.00202	0.00707	0.00500	0.33080	0.19373	0.02957
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00012	0.00001	0.00001	0.13100	0.17500	0.02570
Specifc Target Organ Toxicity HP5	≥1%		0.00154	0.00525	0.00364	0.00768	0.00606	0.00263
Specifc Target Organ Toxicity HP5	≥10%		0.00120	0.00220	0.00080	4.41000	1.45000	0.04840
Aspiration Toxicity HP5	≥10%		0.00120	0.00020	0.00020	1.19004	1.45003	0.04841
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00015	0.00041	0.00041	0.01228	0.00266	0.00028
Acute Toxicity HP6	≥5%	<0.1%	0.00170	0.00515	0.00304	0.00328	0.00599	0.00269
Acute Toxicity HP6	≥25%	<1%	0.00266	0.00932	0.00585	4.74092	0.49577	0.03502
Acute Toxicity HP6	≥0.25%	<0.1%	0.00021	0.00021	0.00021	0.00045	0.00021	0.00021
Acute Toxicity HP6	≥2.5%	<0.1%	0.00154	0.00499	0.00288	0.00307	0.00576	0.00250

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

			RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 1			4.00	0.80	2.00	1.50	1.90	3.10
Ref. 2								
Date			31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Acute Toxicity HP6	≥15%	<0.1%	0.00002	0.00002	0.00002	0.00007	0.00009	0.00005
Acute Toxicity HP6	≥55%	<1%	0.00005	0.00005	0.00005	0.00015	0.00006	0.00005
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00160	0.00506	0.00295	0.00348	0.00583	0.00256
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00016	0.00016	0.00021	0.00023	0.00019
Acute Toxicity HP6	≥22.5%	<1%	0.00249	0.00926	0.00579	4.60980	0.32073	0.00927
Carcinogenic HP7	≥0.1%		0.00154	0.00525	0.00364	**4.41000**	**1.45000**	0.04840
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00012	0.00001	0.00001	0.13100	0.17500	0.02570
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		8.40	8.05	7.76	7.94	7.38	7.89
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.40	8.05	7.76	7.94	7.38	7.89
Toxic for Reproduction HP10	≥0.3%		0.00121	0.00525	0.00364	**4.41000**	**0.30200**	0.02570
Toxic for Reproduction HP10	≥3%		0.00154	0.00499	0.00288	1.19000	1.45000	0.04840
Mutagenic HP11	≥0.1%		0.00154	0.00499	0.00288	**1.19000**	**1.45000**	0.04840
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1			RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2			4.00	0.80	2.00	1.50	1.90	3.10
Date			31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00121	0.00525	0.00364	0.13100	0.17500	0.02570
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		1.0	1.0	1.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00154	0.00525	0.00364	0.13100	0.17500	0.02570
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.00730	0.02243	0.01347	4.81935	0.51789	0.04125

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1			RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2			4.00	0.80	2.00	1.50	1.90	3.10
Date			31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.00853	0.02265	0.01370	6.00945	1.96800	0.08971

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1			RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2			4.00	0.80	2.00	1.50	1.90	3.10
Date			31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.74240	2.24490	1.34940	**493.83523**	**66.28962**	4.60951
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

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Ref. 1	RBH503	RBH501	RBH501	RBH504	RBH504	RBH504
Ref. 2	4.00	0.80	2.00	1.50	1.90	3.10
Date	31-Oct-23	01-Nov-23	01-Nov-23	02-Nov-23	02-Nov-23	02-Nov-23
Persistent Organic Pollutant (Individual Dioxins+Furans) >0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2		3.00	0.50	0.40	1.10	1.80	1.00
Date		11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
% Moisture	%						
pH (soil)		8.19	8.02	8.04	7.83	8.51	8.01
pH (leachate)							
Arsenic	mg/kg	2	21	13	13	2	6
Cadmium	mg/kg	0.5	1.4	2.0	0.6	0.5	4.8
Copper	mg/kg	38	70	529	57	12	1,520
CrVI or Chromium	mg/kg	14	31	35	17	12	49
Lead	mg/kg	61	700	221	104	7	267
Mercury	mg/kg	0.17	0.54	0.17	0.17	0.17	0.95
Nickel	mg/kg	8	24	28	19	11	48
Selenium	mg/kg	1	1	1	1	1	1
Zinc	mg/kg	75	177	481	58	25	874
Barium	mg/kg	41.00	121.00	371.00	104.00	25.00	620.00
Beryllium	mg/kg	0.5	0.8	0.5	0.7	0.6	0.5
Vanadium	mg/kg	10	27	27	24	15	21
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	1.00	3.00	4.00	2.00	1.00	6.00
Antimony	mg/kg	5	5	6	5	5	10
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2		3.00	0.50	0.40	1.10	1.80	1.00
Date		11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.3	1.4	4.3	<1.0	14.2	9.4
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	2.40	1.33	11.20	0.08	0.08	5.75
TPH							
Petrol	mg/kg						

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Ref. 1		TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2		3.00	0.50	0.40	1.10	1.80	1.00
Date		11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg					1.0	
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1	1	1	1	1	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg					0.2	
Cresols	mg/kg					0.2	
Xylenols	mg/kg					0.2	
Resourcinol	mg/kg					0.2	
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg					0.01	
Toluene	mg/kg					0.01	
Ethylbenzene	mg/kg					0.01	
Xylenes	mg/kg					0.01	

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2		3.00	0.50	0.40	1.10	1.80	1.00
Date		11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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Ref. 1		TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2		3.00	0.50	0.40	1.10	1.80	1.00
Date		11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2		3.00	0.50	0.40	1.10	1.80	1.00
Date		11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2		3.00	0.50	0.40	1.10	1.80	1.00
Date		11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Ref. 1	TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2	3.00	0.50	0.40	1.10	1.80	1.00
Date	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Asbestos in Soil	Thresholds					
Asbestos detected in Soil (enter Y or N)	Y	N	N	Y	N		N

If Asbestos in Soil above is "Y", the soil is Hazardous Waste HP5 and H

Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%			0.00100		
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%		0.00000	0.00000	0.00100	0.00000	0.00000

If Asbestos in Soil above is "Y", but Asbestos % above is "<0.1%", the soil is Non Hazardous Waste. You can only use Asbestos %
cannot use Asbestos % results when visual identifiable pieces are pres

Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y		N	N	N	N	N	N

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Ref. 1	TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2	3.00	0.50	0.40	1.10	1.80	1.00
Date	11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23

If visual identifiable pieces of asbestos are present, you cannot use Asbestos % results and the whole soil sample is Hazardous Was
05. Therefore, if Asbestos in Soil above is "**Y**", the Asbestos % above is "<0.1%", but the Asbestos Identifiable Pieces visibl

Identifiable Pieces are Cement, Fragments, Board, Rope etc. ie anything ACM that is
All visual asbestos pieces need to be removed leaving only fibres (or micro pieces) with an Asbestos % Composition in Soil re

Hazardous Property	Thresholds	Cut Off Value	**If cells below turn yellow and the text turns red, the samples should be classified a**					
Corrosive HP8	≥5%	<1%	0.00705	0.02082	0.04554	0.01538	0.00513	0.07220
Irritant HP4	≥10%	<1%	0.00634	0.01549	0.06630	0.01243	0.00437	0.17629
Irritant HP4	≥20%	<1%	0.00653	0.01371	0.06738	0.01091	0.00404	0.18316
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00178	0.00481	0.00481	0.00427	0.00267	0.00374
Specifc Target Organ Toxicity HP5	≥1%		0.00269	0.00595	0.00672	0.00427	0.00267	0.00970
Specifc Target Organ Toxicity HP5	≥10%		0.00610	0.07000	0.02210	0.01040	0.00070	0.02670
Aspiration Toxicity HP5	≥10%		0.00000	0.00000	0.00000	0.00000	0.00010	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00028	0.00283	0.00173	0.00173	0.00028	0.00089
Acute Toxicity HP6	≥5%	<0.1%	0.00716	0.01856	0.04419	0.01412	0.00528	0.07178
Acute Toxicity HP6	≥25%	<1%	0.01468	0.08844	0.09438	0.02562	0.00763	0.21415
Acute Toxicity HP6	≥0.25%	<0.1%	0.00021	0.00024	0.00021	0.00021	0.00021	0.00028
Acute Toxicity HP6	≥2.5%	<0.1%	0.00269	0.00595	0.00672	0.00326	0.00230	0.00941

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2			3.00	0.50	0.40	1.10	1.80	1.00
Date			11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Acute Toxicity HP6	≥15%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00006	0.00000
Acute Toxicity HP6	≥55%	<1%	0.00065	0.00074	0.00092	0.00066	0.00065	0.00168
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00019	0.00019	0.00019	0.00019	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00298	0.00651	0.00717	0.00366	0.00264	0.01021
Acute Toxicity HP6	≥3.5%	<0.1%	0.00014	0.00014	0.00014	0.00014	0.00016	0.00014
Acute Toxicity HP6	≥22.5%	<1%	0.01789	0.09966	0.12944	0.03535	0.00945	0.27389
Carcinogenic HP7	≥0.1%		0.00610	0.07000	0.02210	0.01040	0.00230	0.02670
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00178	0.00481	0.00481	0.00427	0.00267	0.00374
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		8.19	8.02	8.04	7.83	8.51	8.01
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.19	8.02	8.04	7.83	8.51	8.01
Toxic for Reproduction HP10	≥0.3%		0.00610	0.07000	0.02210	#VALUE!	0.00457	0.02670
Toxic for Reproduction HP10	≥3%		0.00269	0.00595	0.00672	0.00427	0.00267	0.00941
Mutagenic HP11	≥0.1%		0.00269	0.00595	0.00672	0.00326	0.00230	0.00941
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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			TP309	TP301	TP302	TP302	WS311	MP301
Ref. 1			3.00	0.50	0.40	1.10	1.80	1.00
Ref. 2								
Date			11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00178	0.00485	0.00566	0.00427	0.00267	0.00970
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		1.0	1.0	1.0	1.0	1.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00269	0.00595	0.00672	0.00384	0.00230	0.00970
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.02497	0.11426	0.15776	0.03332	0.01040	0.32909

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2			3.00	0.50	0.40	1.10	1.80	1.00
Date			11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.02698	0.11943	0.16279	0.03791	0.01348	0.33305

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2			3.00	0.50	0.40	1.10	1.80	1.00
Date			11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	2.51738	11.47801	15.82634	3.37821	1.06854	**32.94816**
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP309	TP301	TP302	TP302	WS311	MP301
Ref. 2		3.00	0.50	0.40	1.10	1.80	1.00
Date		11-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23	20-Apr-23	05-Apr-23
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

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Ref. 1		HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2		0.50	0.50	3.50	6.00	9.90	10.20
Date		20-Apr-23					
% Moisture	%						
pH (soil)		7.99	7.89	8.02	8.46	8.67	8.34
pH (leachate)							
Arsenic	mg/kg	36	13	5	12	4	5
Cadmium	mg/kg	3.1	15.4	7.0	1.6	0.7	0.7
Copper	mg/kg	503	4,520	1,520	502	62	10
CrVI or Chromium	mg/kg	43	161	88	33	30	16
Lead	mg/kg	471	1,220	700	254	48	9
Mercury	mg/kg	2.42	4.76	3.31	0.87	0.18	0.17
Nickel	mg/kg	70	303	80	36	29	16
Selenium	mg/kg	1	2	1	1	1	1
Zinc	mg/kg	910	5,180	3,390	305	57	33
Barium	mg/kg	343.00	1,430.00	503.00	188.00	124.00	30.00
Beryllium	mg/kg	1.6	0.6	0.5	1.1	1.2	0.5
Vanadium	mg/kg	43	32	25	29	33	17
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	9.00	26.00	16.00	3.00	1.00	1.00
Antimony	mg/kg	16	50	26	7	5	5
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2		0.50	0.50	3.50	6.00	9.90	10.20
Date		20-Apr-23					
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	3.0	5.8	18.6	13.4	1.7	1.4
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	24.70	4.47	11.70	16.40	0.26	0.08
TPH							
Petrol	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2		0.50	0.50	3.50	6.00	9.90	10.20
Date		20-Apr-23					
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg			3,620.0	441.0	6.0	2.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	1					
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg						
Cresols	mg/kg						
Xylenols	mg/kg						
Resourcinol	mg/kg						
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg						
Toluene	mg/kg						
Ethylbenzene	mg/kg						
Xylenes	mg/kg						

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2		0.50	0.50	3.50	6.00	9.90	10.20
Date		20-Apr-23					
Total BTEX	mg/kg		0.07				
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2		0.50	0.50	3.50	6.00	9.90	10.20
Date		20-Apr-23					
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2		0.50	0.50	3.50	6.00	9.90	10.20
Date		20-Apr-23					
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2		0.50	0.50	3.50	6.00	9.90	10.20
Date		20-Apr-23					
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2	0.50	0.50	3.50	6.00	9.90	10.20
Date	20-Apr-23					

Asbestos in Soil	Thresholds						
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	N	N
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below						
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y		N	N	N	N	N

%

HP7 If A

results where loose fibres or micro pieces are only present. You If Asbestos in Soil above is "**Y**", but Asbestos % above is "<0.1%
ent. can

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2	0.50	0.50	3.50	6.00	9.90	10.20
Date	20-Apr-23					

te HP5 and HP7 Construction material containing Asbestos 17 06 If visual identifiable pieces of asbestos are present, you cannot us
le with the naked eye is "Y", the soil is Hazardous Waste. 05. Therefore, if Asbestos in Soil above is "Y", the Asbe

not Loose Fibres. Identifiable Pieces
sult of <0.1% for the soil to become non-hazardous waste. All visual asbestos pieces need to be removed leaving only

Hazardous Property	Thresholds	Cut Off Value	s Hazardous Waste.					If cells below turn y
Corrosive HP8	≥5%	<1%	0.04731	0.17563	0.06786	0.02672	0.01869	0.00673
Irritant HP4	≥10%	<1%	0.06925	0.51817	0.17687	0.06347	0.01341	0.00482
Irritant HP4	≥20%	<1%	0.07553	0.57659	0.19172	0.06659	0.01359	0.00475
Specifc Target Organ Toxicity HP5	≥1%		0.00019	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥20%		0.00765	0.00570	0.00445	0.00516	0.00587	0.00303
Specifc Target Organ Toxicity HP5	≥1%		0.01414	0.06121	0.01690	0.00727	0.00587	0.00323
Specifc Target Organ Toxicity HP5	≥10%		0.04710	0.12200	0.36200	0.04410	0.00480	0.00090
Aspiration Toxicity HP5	≥10%		0.00000	0.00001	0.36200	0.04410	0.00060	0.00020
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00499	0.00219	0.00099	0.00167	0.00055	0.00068
Acute Toxicity HP6	≥5%	<0.1%	0.04343	0.17447	0.06757	0.02578	0.01885	0.00644
Acute Toxicity HP6	≥25%	<1%	0.13043	0.70765	0.26736	0.09720	0.02423	0.00897
Acute Toxicity HP6	≥0.25%	<0.1%	0.00043	0.00048	0.00033	0.00009	0.00002	0.00002
Acute Toxicity HP6	≥2.5%	<0.1%	0.00826	0.03091	0.01690	0.00634	0.00576	0.00307

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2			0.50	0.50	3.50	6.00	9.90	10.20
Date			20-Apr-23					
Acute Toxicity HP6	≥15%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥55%	<1%	0.00223	0.00755	0.00382	0.00100	0.00067	0.00067
Acute Toxicity HP6	≥0.1%	<0.1%	0.00019	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.5%	<0.1%	0.00954	0.03320	0.01816	0.00708	0.00640	0.00339
Acute Toxicity HP6	≥3.5%	<0.1%	0.00014	0.00028	0.00014	0.00014	0.00014	0.00014
Acute Toxicity HP6	≥22.5%	<1%	0.16003	0.84267	0.31267	0.11336	0.03594	0.01129
Carcinogenic HP7	≥0.1%		0.04710	**0.12200**	**0.36200**	0.04410	0.00586	0.00323
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00765	0.00600	0.00445	0.00516	0.00587	0.00303
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		7.99	7.89	8.02	8.46	8.67	8.34
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		7.99	7.89	8.02	8.46	8.67	8.34
Toxic for Reproduction HP10	≥0.3%		0.04710	0.12200	0.07000	0.02540	0.00586	0.00323
Toxic for Reproduction HP10	≥3%		0.00826	0.03091	0.36200	0.04410	0.00587	0.00307
Mutagenic HP11	≥0.1%		0.00826	0.03091	**0.36200**	0.04410	0.00576	0.00307
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2		0.50	0.50	3.50	6.00	9.90	10.20
Date		20-Apr-23					
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%	0.01414	0.06121	0.01616	0.00727	0.00587	0.00323
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg	1.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg	0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%	0.01414	0.06121	0.01690	0.00727	0.00586	0.00323
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.24819	1.37684	0.70157	0.13747	0.03133	0.01336

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2			0.50	0.50	3.50	6.00	9.90	10.20
Date			20-Apr-23					
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.25657	1.38282	1.06825	0.18723	0.03835	0.01681

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2			0.50	0.50	3.50	6.00	9.90	10.20
Date			20-Apr-23					
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	24.90264	**137.74360**	**73.82358**	14.24474	3.20341	1.37004
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	HP301	RBH403	RBH403	RBH403	RBH403	RBH403
Ref. 2	0.50	0.50	3.50	6.00	9.90	10.20
Date	20-Apr-23					
Persistent Organic Pollutant (Individual Dioxins+Furans) >0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2		6.50	8.00	15.00	1.50	3.70	5.30
Date							
% Moisture	%						
pH (soil)		8.29	7.86	8.28	8.28	8.13	8.22
pH (leachate)							
Arsenic	mg/kg	6	2	1	8	25	4
Cadmium	mg/kg	0.9	0.9	0.5	0.9	1.2	0.5
Copper	mg/kg	41	36	7	97	394	41
CrVI or Chromium	mg/kg	29	32	7	25	14	25
Lead	mg/kg	79	20	5	161	96	635
Mercury	mg/kg	0.35	0.17	0.17	0.55	0.17	0.54
Nickel	mg/kg	29	27	8	20	32	24
Selenium	mg/kg	1	1	1	1	1	1
Zinc	mg/kg	71	64	16	245	74	48
Barium	mg/kg	123.00	139.00	20.00	213.00	104.00	123.00
Beryllium	mg/kg	1.5	1.2	0.5	0.7	1.9	0.8
Vanadium	mg/kg	30	35	9	23	31	23
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	29.00	27.00	8.00	2.00	7.00	1.00
Antimony	mg/kg	5	5	5	6	5	6
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2		6.50	8.00	15.00	1.50	3.70	5.30
Date							
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.6	1.7	1.4	14.4	5.4	1.7
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	7.39	0.08	0.08	12.60	4.38	0.08
TPH							
Petrol	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2		6.50	8.00	15.00	1.50	3.70	5.30
Date							
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg	101.0	0.0	0.0	293.0	93.0	0.0
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg						
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg						
Cresols	mg/kg						
Xylenols	mg/kg						
Resourcinol	mg/kg						
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg						
Toluene	mg/kg						
Ethylbenzene	mg/kg						
Xylenes	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2		6.50	8.00	15.00	1.50	3.70	5.30
Date							
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2		6.50	8.00	15.00	1.50	3.70	5.30
Date							
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2		6.50	8.00	15.00	1.50	3.70	5.30
Date							
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2		6.50	8.00	15.00	1.50	3.70	5.30
Date							
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1	RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2	6.50	8.00	15.00	1.50	3.70	5.30
Date						

Asbestos in Soil	Thresholds							
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N	N	N	

sbestos in Soil above is "**Y**", the soil is Hazardous Waste HP5 and HP7

Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%						
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

", the soil is Non Hazardous Waste. You can only use Asbestos % results where loose fibres or micro pieces are only present. You not use Asbestos % results when visual identifiable pieces are present.

Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N	N	N	N	N	N

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1	RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2	6.50	8.00	15.00	1.50	3.70	5.30
Date						

e Asbestos % results and the whole soil sample is Hazardous Waste HP5 and HP7 Construction material containing Asbestos 17 06
stos % above is "<0.1%", but the Asbestos Identifiable Pieces visible with the naked eye is "Y", the soil is Hazardous Waste.

are Cement, Fragments, Board, Rope etc. ie anything ACM that is not Loose Fibres.
fibres (or micro pieces) with an Asbestos % Composition in Soil result of <0.1% for the soil to become non-hazardous waste.

Hazardous Property	Thresholds	Cut Off Value	**llow and the text turns red, the samples should be classified as Hazardous Waste.**					
Corrosive HP8	≥5%	<1%	0.01866	0.02031	0.00348	0.02716	0.01639	0.01763
Irritant HP4	≥10%	<1%	0.01077	0.01056	0.00253	0.01611	0.05334	0.00926
Irritant HP4	≥20%	<1%	0.01626	0.01413	0.00384	0.01688	0.05334	0.01000
Specifc Target Organ Toxicity HP5	≥1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥20%		0.00534	0.00623	0.00160	0.00409	0.00552	0.00409
Specifc Target Organ Toxicity HP5	≥1%		0.00586	0.00623	0.00162	0.00480	0.00646	0.00485
Specifc Target Organ Toxicity HP5	≥10%		0.01010	0.00200	0.00050	0.02930	0.00960	0.06350
Aspiration Toxicity HP5	≥10%		0.01010	0.00000	0.00000	0.02930	0.00930	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00083	0.00028	0.00015	0.00111	0.00332	0.00058
Acute Toxicity HP6	≥5%	<0.1%	0.01869	0.02073	0.00371	0.02656	0.01410	0.01761
Acute Toxicity HP6	≥25%	<1%	0.02516	0.01845	0.00517	0.03727	0.06726	0.07785
Acute Toxicity HP6	≥0.25%	<0.1%	0.00004	0.00002	0.00002	0.00006	0.00002	0.00005
Acute Toxicity HP6	≥2.5%	<0.1%	0.00557	0.00614	0.00134	0.00480	0.00269	0.00480

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
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Haswaste, developed by Dr. Iain Haslock.

			RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 1								
Ref. 2			6.50	8.00	15.00	1.50	3.70	5.30
Date								
Acute Toxicity HP6	≥15%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥55%	<1%	0.00069	0.00069	0.00065	0.00081	0.00072	0.00077
Acute Toxicity HP6	≥0.1%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.5%	<0.1%	0.00638	0.00680	0.00164	0.00526	0.00369	0.00527
Acute Toxicity HP6	≥3.5%	<0.1%	0.00014	0.00014	0.00014	0.00014	0.00014	0.00014
Acute Toxicity HP6	≥22.5%	<1%	0.03603	0.03165	0.00651	0.05650	0.07650	0.08938
Carcinogenic HP7	≥0.1%		0.01010	0.00614	0.00162	0.02930	0.00960	0.06350
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00534	0.00623	0.00160	0.00409	0.00552	0.00409
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		8.29	7.86	8.28	8.28	8.13	8.22
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.29	7.86	8.28	8.28	8.13	8.22
Toxic for Reproduction HP10	≥0.3%		0.00790	0.00545	0.00162	0.01610	0.00960	0.06350
Toxic for Reproduction HP10	≥3%		0.01010	0.00623	0.00160	0.02930	0.00930	0.00480
Mutagenic HP11	≥0.1%		0.01010	0.00614	0.00134	0.02930	0.00930	0.00480
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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Haswaste, developed by Dr. Iain Haslock.

			RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 1			6.50	8.00	15.00	1.50	3.70	5.30
Ref. 2								
Date								
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00586	0.00623	0.00162	0.00409	0.00646	0.00485
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00586	0.00614	0.00162	0.00480	0.00646	0.00485
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.03463	0.02619	0.00660	0.06913	0.07654	0.08456

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1			RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2			6.50	8.00	15.00	1.50	3.70	5.30
Date								
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.05076	0.03296	0.00843	0.10284	0.09222	0.08902

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Ref. 1			RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2			6.50	8.00	15.00	1.50	3.70	5.30
Date								
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	3.62434	2.68637	0.67820	7.24993	7.81084	8.50079
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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Haswaste, developed by Dr. Iain Haslock.

Ref. 1		RBH401	RBH401	RBH401	RBH402	RBH402	RBH402
Ref. 2		6.50	8.00	15.00	1.50	3.70	5.30
Date							
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
% Moisture	%						
pH (soil)		8.09	6.78	8.09	8.08	8.15	8.02
pH (leachate)							
Arsenic	mg/kg	26	126	10	16	19	35
Cadmium	mg/kg	3.1	11.3	2.9	2.2	1.4	2.0
Copper	mg/kg	1,160	13,800	669	264	313	226
CrVI or Chromium	mg/kg	24	76	46	28	16	19
Lead	mg/kg	1,840	18,100	394	520	472	906
Mercury	mg/kg	2.46	5.68	1.47	0.66	1.08	3.12
Nickel	mg/kg	30	100	59	41	20	30
Selenium	mg/kg	1	1	1	1	1	1
Zinc	mg/kg	2,000	3,980	934	758	241	230
Barium	mg/kg	494.00	598.00	322.00	317.00	303.00	317.00
Beryllium	mg/kg	1.0	1.9	0.7	1.3	0.8	1.2
Vanadium	mg/kg	39	177	34	37	24	33
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	3.00	12.00	7.00	2.00	3.00	4.00
Antimony	mg/kg	77	1,050	14	35	29	19
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.0	1.0	1.8	1.0	1.0	1.0
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	21.00	14.90	18.90	3.39	47.00	56.60
TPH							
Petrol	mg/kg						

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Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg			2,010.0		719.0	
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	9	11	1	1	2	1
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg						
Cresols	mg/kg						
Xylenols	mg/kg						
Resourcinol	mg/kg						
Phenols Total by HPLC	mg/kg	0.2					
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg			0.01		0.01	
Toluene	mg/kg			0.01		0.01	
Ethylbenzene	mg/kg			0.01		0.01	
Xylenes	mg/kg			0.01		0.01	

Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Asbestos in Soil	Thresholds						
Asbestos detected in Soil (enter Y or N)	Y	**Y**	N	N	N	N	N
		If Asbestos in Soil above is "**Y**", the soil is Hazardous Waste HP5 and H					
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	0.00700					
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00700	0.00000	0.00000	0.00000	0.00000	0.00000
		If Asbestos in Soil above is "**Y**", but Asbestos % above is "<0.1%", the soil is Non Hazardous Waste. You can only use Asbestos % cannot use Asbestos % results when visual identifiable pieces are pres					
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N		N	N	N	N

%

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1	TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2	0.50	0.40	0.40	0.30	0.50	1.30
Date	19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22

If visual identifiable pieces of asbestos are present, you cannot use Asbestos % results and the whole soil sample is Hazardous Was
05. Therefore, if Asbestos in Soil above is "**Y**", the Asbestos % above is "<0.1%", but the Asbestos Identifiable Pieces visibl

Identifiable Pieces are Cement, Fragments, Board, Rope etc. ie anything ACM that is
All visual asbestos pieces need to be removed leaving only fibres (or micro pieces) with an Asbestos % Composition in Soil re

Hazardous Property	Thresholds	Cut Off Value	**If cells below turn yellow and the text turns red, the samples should be classified a**					
Corrosive HP8	≥5%	<1%	0.05746	0.09102	0.04235	0.03919	0.03588	0.03997
Irritant HP4	≥10%	<1%	0.14147	1.60754	0.08297	0.03853	0.04215	0.03603
Irritant HP4	≥20%	<1%	0.14017	1.58376	0.09078	0.03935	0.04493	0.03841
Specifc Target Organ Toxicity HP5	≥1%		0.00169	0.00207	0.00019	0.00019	0.00038	0.00019
Specifc Target Organ Toxicity HP5	≥20%		0.00694	0.03151	0.00605	0.00659	0.00470	0.00587
Specifc Target Organ Toxicity HP5	≥1%		0.00700	0.03151	0.01192	0.00828	0.00427	0.00606
Specifc Target Organ Toxicity HP5	≥10%		0.18400	1.81000	0.20100	0.05200	0.07190	0.09060
Aspiration Toxicity HP5	≥10%		0.00000	0.00000	0.20100	0.00000	0.07190	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00169	0.00207	0.00019	0.00019	0.00038	0.00019
Acute Toxicity HP6	≥0.25%	<0.1%	0.00368	0.01720	0.00147	0.00218	0.00262	0.00493
Acute Toxicity HP6	≥5%	<0.1%	0.05463	0.07540	0.04149	0.03781	0.03388	0.03604
Acute Toxicity HP6	≥25%	<1%	0.33975	3.54973	0.13683	0.10146	0.09920	0.13621
Acute Toxicity HP6	≥0.25%	<0.1%	0.00194	0.00264	0.00034	0.00025	0.00048	0.00050
Acute Toxicity HP6	≥2.5%	<0.1%	0.00461	0.01459	0.00883	0.00538	0.00307	0.00365

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2			0.50	0.40	0.40	0.30	0.50	1.30
Date			19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Acute Toxicity HP6	≥15%	<0.1%	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥55%	<1%	0.00955	0.12713	0.00197	0.00442	0.00362	0.00248
Acute Toxicity HP6	≥0.1%	<0.1%	0.00169	0.00207	0.00019	0.00019	0.00038	0.00019
Acute Toxicity HP6	≥0.5%	<0.1%	0.00562	0.01716	0.00959	0.00625	0.00368	0.00471
Acute Toxicity HP6	≥3.5%	<0.1%	0.00016	0.00014	0.00014	0.00014	0.00014	0.00014
Acute Toxicity HP6	≥22.5%	<1%	0.37748	3.48091	0.16517	0.12840	0.12118	0.15977
Carcinogenic HP7	≥0.1%		**0.18400**	**1.81000**	**0.20100**	0.05200	0.07190	0.09060
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00924	0.12600	0.00605	0.00659	0.00470	0.00587
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		8.09	6.78	8.09	8.08	8.15	8.02
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.09	6.78	8.09	8.08	8.15	8.02
Toxic for Reproduction HP10	≥0.3%		0.18400	**1.81000**	0.03940	0.05200	0.04720	0.09060
Toxic for Reproduction HP10	≥3%		0.00694	0.03151	0.20100	0.00659	0.07190	0.00587
Mutagenic HP11	≥0.1%		0.00461	0.01459	**0.20100**	0.00538	0.07190	0.00566
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2			0.50	0.40	0.40	0.30	0.50	1.30
Date			19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00694	0.03151	0.01192	0.00828	0.00470	0.00606
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		9.0	11.0	1.0	1.0	2.0	1.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00606	0.02020	0.01192	0.00828	0.00470	0.00606
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.58369	3.92372	0.25647	0.19331	0.12778	0.16572

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2			0.50	0.40	0.40	0.30	0.50	1.30
Date			19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.59109	3.95609	0.46385	0.20048	0.20432	0.17214

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If any calculation cells below state "0.00000", testing has NOT been undertaken that co

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Ref. 1			TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2			0.50	0.40	0.40	0.30	0.50	1.30
Date			19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	**58.44108**	**392.69582**	**27.72102**	19.40239	13.54327	16.63591
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

Please enter available data in the rows associated with the test (grey) cells. Calculation cells
If any calculation cells below state "0.00000", testing has NOT been undertaken that co

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP219	WS209	WS208	WS211	WS210	WS210
Ref. 2		0.50	0.40	0.40	0.30	0.50	1.30
Date		19-Jul-22	21-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22	22-Jul-22
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
% Moisture	%						
pH (soil)		8.21	8.14	7.81	7.99		
pH (leachate)							
Arsenic	mg/kg	31	28	21	28		
Cadmium	mg/kg	1.6	1.3	1.5	1.9		
Copper	mg/kg	722	266	460	499		
CrVI or Chromium	mg/kg	31	20	18	21		
Lead	mg/kg	1,490	621	1,820	1,410		
Mercury	mg/kg	2.40	1.51	0.70	0.54		
Nickel	mg/kg	36	22	29	36		
Selenium	mg/kg	1	1	1	1		
Zinc	mg/kg	402	320	505	599		
Barium	mg/kg	787.00	351.00	259.00	250.00		
Beryllium	mg/kg	1.5	1.0	0.8	0.9		
Vanadium	mg/kg	51	35	39	44		
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg	5.00	3.00	3.00	4.00		
Antimony	mg/kg	110	15	55	42		
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg	1.0	1.0	1.0	1.0		
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg	16.50	14.00	10.70	137.00		
TPH							
Petrol	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg						
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg	5	2	2	5		
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg						
Cresols	mg/kg						
Xylenols	mg/kg						
Resourcinol	mg/kg						
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg						
Toluene	mg/kg						
Ethylbenzene	mg/kg						
Xylenes	mg/kg						

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ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
POPs Dioxins and Furans Input Total Dioxins and Furans **OR** individual Dioxin and Furan results.							
2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						
Some Pesticides (POPs unless otherwise stated)							
Aldrin	mg/kg						

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ontributes to that Hazardous Property. If any calculation cells below state "0.

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Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

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initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	TP306	TP304	TP304	TP304		
Ref. 2	0.50	0.20	0.50	1.50		
Date	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Asbestos in Soil	Thresholds					
Asbestos detected in Soil (enter Y or N)	Y	N	N	N	N		
Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below					
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y	N	N	N	N		N

%

HP7 If A

results where loose fibres or micro pieces are only present. You If Asbestos in Soil above is "Y", but Asbestos % above is "<0.1%
ent. can

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1	TP306	TP304	TP304	TP304		
Ref. 2	0.50	0.20	0.50	1.50		
Date	13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		

te HP5 and HP7 Construction material containing Asbestos 17 06 If visual identifiable pieces of asbestos are present, you cannot us
le with the naked eye is "Y", the soil is Hazardous Waste. 05. Therefore, if Asbestos in Soil above is "Y", the Asbe

not Loose Fibres. Identifiable Pieces
sult of <0.1% for the soil to become non-hazardous waste. All visual asbestos pieces need to be removed leaving only

Hazardous Property	Thresholds	Cut Off Value	**s Hazardous Waste.**					**If cells below turn y**
Corrosive HP8	≥5%	<1%	0.08874	0.04264	0.03213	0.03273	0.00000	0.00000
Irritant HP4	≥10%	<1%	0.09476	0.03998	0.06169	0.06792	0.00000	0.00000
Irritant HP4	≥20%	<1%	0.09194	0.03681	0.05972	0.07837	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥1%		0.00094	0.00038	0.00038	0.00094	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥20%		0.00908	0.00623	0.00694	0.01370	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥1%		0.00908	0.00623	0.00694	0.00783	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥10%		0.14900	0.06210	0.18200	0.14100	0.00000	0.00000
Aspiration Toxicity HP5	≥10%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00094	0.00038	0.00038	0.00094	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00433	0.00385	0.00284	0.00375	0.00000	0.00000
Acute Toxicity HP6	≥5%	<0.1%	0.08548	0.03954	0.02986	0.02958	0.00000	0.00000
Acute Toxicity HP6	≥25%	<1%	0.26195	0.10616	0.25460	0.23142	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00118	0.00053	0.00045	0.00099	0.00000	0.00000
Acute Toxicity HP6	≥2.5%	<0.1%	0.00595	0.00384	0.00346	0.00403	0.00000	0.00000

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			TP306	TP304	TP304	TP304		
Ref. 2			0.50	0.20	0.50	1.50		
Date			13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Acute Toxicity HP6	≥15%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥55%	<1%	0.01336	0.00193	0.00675	0.00523	0.00000	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00094	0.00038	0.00038	0.00094	0.00000	0.00000
Acute Toxicity HP6	≥0.5%	<0.1%	0.00704	0.00458	0.00404	0.00469	0.00000	0.00000
Acute Toxicity HP6	≥3.5%	<0.1%	0.00014	0.00014	0.00014	0.00014	0.00000	0.00000
Acute Toxicity HP6	≥22.5%	<1%	0.32564	0.13793	0.27268	0.23749	0.00000	0.00000
Carcinogenic HP7	≥0.1%		**0.14900**	0.06210	**0.18200**	**0.14100**	0.00000	0.00000
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.01320	0.00623	0.00694	0.01370	0.00000	0.00000
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		8.21	8.14	7.81	7.99	0.00	0.00
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		8.21	8.14	7.81	7.99	0.00	0.00
Toxic for Reproduction HP10	≥0.3%		0.14900	0.06210	0.18200	0.14100	0.00000	0.00000
Toxic for Reproduction HP10	≥3%		0.00908	0.00623	0.00694	0.00783	0.00000	0.00000
Mutagenic HP11	≥0.1%		0.00595	0.00384	0.00346	0.01370	0.00000	0.00000
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%	0.00908	0.00623	0.00694	0.01370	0.00000	0.00000
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg	0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg	5.0	2.0	2.0	5.0	0.0	0.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg	0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%	0.00727	0.00444	0.00586	0.01370	0.00000	0.00000
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.30128	0.14634	0.31100	0.30229	0.00000	0.00000

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			TP306	TP304	TP304	TP304		
Ref. 2			0.50	0.20	0.50	1.50		
Date			13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.31105	0.15302	0.31830	0.31053	0.00000	0.00000

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initially display either "0.0000" or "#DIV/0!". Please enter available data in the rows asso
ontributes to that Hazardous Property. If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1			TP306	TP304	TP304	TP304		
Ref. 2			0.50	0.20	0.50	1.50		
Date			13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	**30.22592**	14.70046	**31.17287**	**30.31112**	0.00000	0.00000
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

envirolab

initially display either "0.0000" or "#DIV/0!".
ontributes to that Hazardous Property.

Please enter available data in the rows assc
If any calculation cells below state "0.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1		TP306	TP304	TP304	TP304		
Ref. 2		0.50	0.20	0.50	1.50		
Date		13-Apr-23	13-Apr-23	13-Apr-23	13-Apr-23		
Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							
% Moisture	%						
pH (soil)							
pH (leachate)							
Arsenic	mg/kg						
Cadmium	mg/kg						
Copper	mg/kg						
CrVI or Chromium	mg/kg						
Lead	mg/kg						
Mercury	mg/kg						
Nickel	mg/kg						
Selenium	mg/kg						
Zinc	mg/kg						
Barium	mg/kg						
Beryllium	mg/kg						
Vanadium	mg/kg						
Cobalt	mg/kg						
Manganese	mg/kg						
Molybdenum	mg/kg						
Antimony	mg/kg						
Aluminium	mg/kg						
Bismuth	mg/kg						
CrIII	mg/kg						
Iron	mg/kg						
Strontium	mg/kg						
Tellurium	mg/kg						
Thallium	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
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Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							
Titanium	mg/kg						
Tungsten	mg/kg						
Ammoniacal N	mg/kg						
ws Boron	mg/kg						
PAH (Input Total PAH **OR** individual PAH results)							
Acenaphthene	mg/kg						
Acenaphthylene	mg/kg						
Anthracene	mg/kg						
Benzo(a)anthracene	mg/kg						
Benzo(a)pyrene	mg/kg						
Benzo(b)fluoranthene	mg/kg						
Benzo(ghi)perylene	mg/kg						
Benzo(k)fluoranthene	mg/kg						
Chrysene	mg/kg						
Dibenzo(ah)anthracene	mg/kg						
Fluoranthene	mg/kg						
Fluorene	mg/kg						
Indeno(123cd)pyrene	mg/kg						
Naphthalene	mg/kg						
Phenanthrene	mg/kg						
Pyrene	mg/kg						
Coronene	mg/kg						
Total PAHs (16 or 17)	mg/kg						
TPH							
Petrol	mg/kg						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							
Diesel	mg/kg						
Lube Oil	mg/kg						
Crude Oil	mg/kg						
White Spirit / Kerosene	mg/kg						
Creosote	mg/kg						
Unknown TPH with ID	mg/kg						
Unknown TPHCWG	mg/kg						
Total Sulphide	mg/kg						
Complex Cyanide	mg/kg						
Free (or Total) Cyanide	mg/kg						
Thiocyanate	mg/kg						
Elemental/Free Sulphur	mg/kg						
Phenols Input Total Phenols HPLC **OR** individual Phenol results.							
Phenol	mg/kg						
Cresols	mg/kg						
Xylenols	mg/kg						
Resourcinol	mg/kg						
Phenols Total by HPLC	mg/kg						
BTEX Input Total BTEX **OR** individual BTEX results.							
Benzene	mg/kg						
Toluene	mg/kg						
Ethylbenzene	mg/kg						
Xylenes	mg/kg						



ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1 **Ref. 2** **Date**							
Total BTEX	mg/kg						
PCBs (POPs)							
PCBs Total (eg EC7/WHO12)	mg/kg						
PBBs (POPs)							
Hexabromobiphenyl (Total or PBB153; 2,2',4,4',5,5'- if only available)	mg/kg						

ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							

POPs Dioxins and Furans Input Total Dioxins and Furans
OR individual Dioxin and Furan results.

2,3,7,8-TeCDD	mg/kg						
1,2,3,7,8-PeCDD	mg/kg						
1,2,3,4,7,8-HxCDD	mg/kg						
1,2,3,6,7,8-HxCDD	mg/kg						
1,2,3,7,8,9-HxCDD	mg/kg						
1,2,3,4,6,7,8-HpCDD	mg/kg						
OCDD	mg/kg						
2,3,7,8-TeCDF	mg/kg						
1,2,3,7,8-PeCDF	mg/kg						
2,3,4,7,8-PeCDF	mg/kg						
1,2,3,4,7,8-HxCDF	mg/kg						
1,2,3,6,7,8-HxCDF	mg/kg						
2,3,4,6,7,8-HxCDF	mg/kg						
1,2,3,7,8,9-HxCDF	mg/kg						
1,2,3,4,6,7,8-HpCDF	mg/kg						
1,2,3,4,7,8,9-HpCDF	mg/kg						
OCDF	mg/kg						
Total Dioxins and Furans	mg/kg						

Some Pesticides (POPs unless otherwise stated)

Aldrin	mg/kg						

ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							
α Hexachlorocyclohexane (alpha-HCH) *(leave empty if total HCH results used)*	mg/kg						
β Hexachlorocyclohexane (beta-HCH) *(leave empty if total HCH results used)*	mg/kg						
α Cis-Chlordane (alpha) ***OR*** *Total Chlordane*	mg/kg						
δ Hexachlorocyclohexane (delta-HCH) *(leave empty if total HCH results used)*	mg/kg						
Dieldrin	mg/kg						
Endrin	mg/kg						
χ Hexachlorocyclohexane (gamma-HCH) (lindane) ***OR*** *Total HCH*	mg/kg						
Heptachlor	mg/kg						
Hexachlorobenzene	mg/kg						
o,p'-DDT *(leave empty if total DDT results used)*	mg/kg						
p,p'-DDT ***OR*** *Total DDT*	mg/kg						
χ Trans-Chlordane (gamma) *(leave empty if total Chlordane results used)*	mg/kg						
Chlordecone (kepone)	mg/kg						

Table 3 of the CLP, CL Inventory, ATPs, IARC, Concawe, MSDSs, REACH + Pesticide Properties databases. Worst case REACH + MSDS's used for "*" STOT + Acute Toxicity.

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							
Pentachlorobenzene	mg/kg						
Mirex	mg/kg						
Toxaphene (camphechlor)	mg/kg						
Tin							
Tin *(leave empty if Organotin and Tin excl Organotin results used)*	mg/kg						
Organotin							
Dibutyltin; DiBT	mg/kg						
Tributyltin; TriBT	mg/kg						
Triphenyltin; TriPT	mg/kg						
Tetrabutyltin; TeBT	mg/kg						
Tin excluding Organotin							
Tin excl Organotin	mg/kg						

ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1						
Ref. 2						
Date						

Asbestos in Soil	Thresholds						
Asbestos detected in Soil (enter Y or N)	Y						

sbestos in Soil above is "**Y**", the soil is Hazardous Waste HP5 and HP7

Asbestos % Composition in Soil (Matrix Loose Fibres or Microscopic Identifiable Pieces only)	see "Carc HP7 % Asbestos in Soil (Fibres)" below	%					
Carcinogenic HP7 % Asbestos in Soil (fibres or micro pieces) *Please be advised, if the calculation cell is "0.00000" DOES NOT MEAN asbestos testing has been undertaken and the result is zero.*	≥0.1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

", the soil is Non Hazardous Waste. You can only use Asbestos % results where loose fibres or micro pieces are only present. You not use Asbestos % results when visual identifiable pieces are present.

Asbestos Identifiable Pieces visible with the naked eye detected in the Soil (enter Y or N)	Y						

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1						
Ref. 2						
Date						

e Asbestos % results and the whole soil sample is Hazardous Waste HP5 and HP7 Construction material containing Asbestos 17 06
stos % above is "<0.1%", but the Asbestos Identifiable Pieces visible with the naked eye is "Y", the soil is Hazardous Waste.

are Cement, Fragments, Board, Rope etc. ie anything ACM that is not Loose Fibres.
fibres (or micro pieces) with an Asbestos % Composition in Soil result of <0.1% for the soil to become non-hazardous waste.

Hazardous Property	Thresholds	Cut Off Value	**llow and the text turns red, the samples should be classified as Hazardous Waste.**					
Corrosive HP8	≥5%	<1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Irritant HP4	≥10%	<1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Irritant HP4	≥20%	<1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥20%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Specifc Target Organ Toxicity HP5	≥10%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Aspiration Toxicity HP5	≥10%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥5%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥25%	<1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.25%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥2.5%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							
Acute Toxicity HP6	≥15%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥55%	<1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.1%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥0.5%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥3.5%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Acute Toxicity HP6	≥22.5%	<1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Carcinogenic HP7	≥0.1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Carcinogenic HP7	≥0.1%		0.000000000	0.000000000	0.000000000	0.000000000	0.000000000	0.000000000
Carcinogenic HP7	≥1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Carcinogenic HP7 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00
Carcinogenic HP7 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
pH Corrosive HP8 pH (soil or leachate)	H8 ≥11.5		0.00	0.00	0.00	0.00	0.00	0.00
pH Corrosive HP8 pH (soil or leachate)	H8 ≤2		0.00	0.00	0.00	0.00	0.00	0.00
Toxic for Reproduction HP10	≥0.3%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Toxic for Reproduction HP10	≥3%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Mutagenic HP11	≥0.1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Mutagenic HP11 Unknown TPH with ID	≥1,000mg/kg		0.00	0.00	0.00	0.00	0.00	0.00

ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1						
Ref. 2						
Date						

Mutagenic HP11 b(a)p marker test (Unknown TPH with ID only) Cell only applicable if TPH >1,000mg/kg	≥0.01%		#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Mutagenic HP11	≥1%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Produces Toxic Gases HP12 Sulphide	≥1,400mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Cyanide	≥1,200mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
Produces Toxic Gases HP12 Thiocyanate	≥2,600mg/kg		0.0	0.0	0.0	0.0	0.0	0.0
HP13 Sensitising	≥10%		0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Ecotoxic HP14 amended v6	≥25%	<0.1%	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

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ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1							
Ref. 2							
Date							
Ecotoxic HP14 amended v6	≥25%	<0.1% (except Be, V, Te, Tl, Petrol, Diesel, Crude Oil, Kerosene, White Spirit, Crosote, TPH, TPHCWG, Phenol, Cresols, Xylenols, T-Phenols, CompCN, Thiocyanate, Toluene, Ethylbenzene, Xylene + BTEX 1%).	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Persistent Organic Pollutant (PCB, PBB or POP Pesticides)	>0.005%		0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
Persistent Organic Pollutant (Total Dioxins+Furans)	>0.0000015%		0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000



ociated with the test (grey) cells. Calculation cells initially display either "0.0000" or "#DIV/0!".
00000", testing has NOT been undertaken that contributes to that Hazardous Property.

Haswaste, developed by Dr. Iain Haslock.

Ref. 1						
Ref. 2						
Date						

Persistent Organic Pollutant (Individual Dioxins+Furans)	>0.0000015%	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000	0.0000000000

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX H – ENVIRONMENT AGENCY CORRESPONDENCE

Far East Consortium (FEC)
UK (London Office)
12 Stanhope Gate
London
W1K 1AW

Our ref:
SO/2023/122837/01-L01
Your ref:
Victoria North Phase 1 / Application 5 / Plots NT02-NT04
Date:
09 March 2023

FAO: Linden Richardson / RoC Consulting (*acting on behalf of FEC*) / John Sherrington / SPC Limited (*acting on behalf of FEC*)

Dear Linden / John,

ENVPAC/1/GMC/00443 - ENVIRONMENT AGENCY / FAR EAST CONSORTIUM – VICTORIA NORTH DEVELOPMENT PROPOSALS - PHASE 1

PLOTS NT02, NT03, NT04 - LAND CONTAMINATION / GROUND INVESTIGATIONS REVIEW / RESPONSE LETTER FOR:

I. **Phase 1 Desktop Study. Plots NT02, NT03 & NT04 Dantzic Street. Prepared by RoC Consulting for Far East Consortium Limited. Report Ref: 4328-ROC-ZZ-XX-RP-ES-PH1DTS. Dated 12th January 2023.**

II. **Phase 2 Site Investigation. Plots NT02, NT03& NT04. Dantzic Street. Prepared by RoC Consulting for Far East Consortium Limited. Report Ref: 4328-ROC-ZZ-XX-RP-ES-PR-101. Dated 21st October 2022.**

III. **Site Investigation Proposal Design Note, Chlorinated Solvent Investigation, Plot NT02-NT04. Report Ref: LR/NK/4328/120123. Prepared by RoC Consulting. Dated 12th January 2023.**

LAND OFF DANTZIC STREET, DEVELOPMT PLOTS NT02, NT03 & NT04.

Thank you again for meeting with the Environment Agency (EA) on the 1st December 2022; to undertake preliminary discussions relating to desk/intrusive ground investigations undertaken to date and to discuss/agree subsequent further additional ground investigation requirements needed ensure the following:

- The comprehensive characterisation of underlying ground conditions for development plots NT02-NT04 is achieved.

- The effectual assessment of potential risks posed to controlled waters by any contamination identified and, in turn, associated remedial requirements.

- The ability of FEC project team to adequately address any pre-commencement conditions placed upon any subsequent planning approval granted for development plots NT02-NT04.

EA SO/2023/122837/01-L01 - Letter / Review Context

As introduction to wider contents of this letter, as discussed during recent meeting with ROC (01/12/2022) and affirmed during wider subsequent conversations held with the FEC project team, it remains our current understanding that it is the intention of the FEC project team to submit shortly (~March 2023) to the local planning authority (LPA) / Manchester City Council, a full planning application covering development within plots NT02-NT04.

In virtue of the above intention, planning requirements/guidance and fact additional ground investigations (subject of this letter) have not yet occurred, we advise the FEC project team that at the point of planning submission, there will be a strong likelihood of the EA being required to recommend to the LPA (subject to wider environmental constraints having been adequately address through initial application submissions) the inclusion, on any subsequent planning approval granted, pre-commencement conditions governing the submission of additional ground investigation reporting and/where required remedial strategy/verification reporting.

Cognisant to the above and fact during our meeting held on the 1st December 2022 it was collectively identified that the current/finalised Phase 1 and Phase 2 ground investigation reporting produced by RoC would likely prove to be sufficient to enable the EA to offer to the LPA a pragmatic option of pre-commencement conditional approval (for matters relating to land contamination), we advise the further technical review/response below focuses primarily upon proposals/requirements for additional investigations subject of the proposal design note (LR/NK/4328/120123) listed above / submitted. However, please be assured that, where warranted our reviewing contaminated land specialist has also referred / made consideration to the contents of the updated Phase 1 desktop study report (4328-ROC-ZZ-XX-RP-ES-PH1DTS) and Phase 2 site investigation (4328-ROC-ZZ-XX-RP-ES-PR-101) supplied as part of this chargeable request.

--

EA Land Contamination Review / Additional Ground Investigations Commentary

[Commentary below provided by EA Contaminated Land Specialist, Lee Beveridge]

Background Understanding / Land Contamination Risk

We are aware from the submissions to date that the site has a history of industrial land use which has introduced a contamination legacy issue. The ground investigation reporting that has been presented to the EA date indicates that the most significantly impacted area of the development site is development plot NT02 which is understood from mapping supplied to be located on the western extent of the development area.

The presence of Chlorinated Solvents in both possible extent and concentration is such that a likely risk to controlled waters is exists and which to address, as discussed and agreed during our meeting (01/12/2022), warrants the undertaking of additional ground investigations to clearly identify and confidently determine the significance of such a risk and, in turn, any subsequent remedial requirements to ensure development sustainability / environmental protection is achieved.

Environmental Setting / Geological Conditions

Cont/d..

As we discussed during our meeting (01/12/2022), the bedrock geology within proximity of the development site (NT02-NT04) is known and has been extensively recorded, with such information available from the British Geologic Survey.

However, in essence, the geological sequence for this area of Manchester is one of upper Chester Pebble Bed Sandstone above a Manchester Marl which, in turn, is above the deeper Collyhurst sandstone. The sequence is known to be inclined to the west and impacted by a fault. On the western side of the fault, the Chester Pebble bed is known to subcrop whilst on the eastern side of the fault the subcrop is of Manchester Marl.

The EA considers the Chester Pebble bed sandstone and the Collyhurst Sandstone to be Principal Aquifers – important groundwater resources requiring protection and for both of which known abstractions exist. The Manchester Marls are considered by the EA to be a Secondary Aquifer, a groundwater of slightly less resource potential than the former aforementioned.

The above notwithstanding, it should continue to be recognised by the FEC development project team that all three of the geological units aforementioned are deemed to be controlled water resources and therefore, in following the guidance, policy and legislation against which the EA seeks to regulate new planning/development proposals (notably, the Water Framework Directive (England and Wales) Regulations 2017 and guidance set out within the National Planning Policy Framework (NPPF)) are required to be protected through new development efforts (via site remediation if proven appropriate).

Further to the above, given the proximity of the proposed development site to the River Irk and the wider topological gradient, we agree with the conclusion reached within the RoC reporting supplied that there is a further additional risk posed to surface waters. The River Irk is subject to the same guidance, policy and legislation as mentioned above and is required to be protected through new development efforts (via site remediation if proven appropriate).

Current ongoing EA engagement with a different development site within the Greater Manchester region (planning details of site in question available upon request), which has similar Chlorinated Solvent contamination, has identified that the chlorinated solvent sequence (PCE, TCE, 1,2 DCE and VC) are all likely to be considered as Hazardous Substances.

Work on this aforementioned other development site has shown there to be a good deal of literature available that describes and, in some cases, predicts, the de-chlorination sequence in detail. Such information may help establish the state of the degradation process and therefore offer assistance for the NT02-NT04 development site in considering the original source/origin of the chlorinated solvent contamination observed. However, a review of the information that has been collected already suggests that the source of this contamination is most likely to be located on-site and is resultant of its former industrial use.

<u>Points of clarification</u>

Within the contents of the site investigation proposal design note (LR/NK/4328/120123), we have been asked to consider the following bullet points, detailed below, and provide advice and guidance accordingly.

Cont/d..

For ease of interpretation of the reader, the questions raised within the RoC design note (LR/NK/4328/120123) have been reiterated below within blue italics.

'Any further information you may have on chlorinated solvent contamination, or potential sources of chlorinated solvent contamination, in the local area'

We have checked the wider ground investigation records we have held for the development area and for areas within more immediate vicinity of the development site. None of these records point to the indicated presence of chlorinated solvent contamination. However, a check of historical mapping records available to the EA has identified a historic map of the area dating from 1891, this mapping points to large extensive areas of residential dwellings surrounding the Rochdale Road gas works with only the on-site industrial activities being a notable potential source of the chlorinated solvent contamination observed. We would refer you to the desk study reports that have been previously published as well as established sources of historical information and mapping to support this consideration further.

'Any further relevant policies or guidance relevant to such investigations'

As Chlorinated solvents are considered to be hazardous substances and have from initial investigations found to be present on site, we advise for water quality / controlled water protection related matters that the Water Framework Directive as well as the daughter, Groundwater Directive would apply in this instance. For the purpose the of assessment under planning regime, in offering position/determination to the governing LPA, we would expect that it demonstrated through relevant reporting submissions (at point of initial application submission or, where deemed appropriate, subsequent daughter discharge of conditions application(s)), that the development can achieve effective accordance to guidance outlined within the National Planning Policy Framework (NPPF); we note in particular the requirements of NPPF paragraphs 174 and 183.

Given their potential to cause detriment to WFD chemical and overall status classification (which to achieve accordance to Regulation 33 of the WFD (2017) regulations must not occur and/or prevent improvement of overall WFD status occurring), hazardous substances should be prevented from entering and impacting adversely upon groundwater bodies and/or surface water receptors (River Irk). Where such contamination is present, this should be controlled and where necessary, to reduce risk posed to the environment to being as low as reasonably practicable (ALARP) appropriately remediated. This is especially important whereby it found there is evidence of an expanding contaminant plume rather than a stable, non-expanding plume or reducing plume.

In virtue of the above, at this present time, we consider there is not enough evidence to decide upon the status of the plume underlying the proposed development site (NT02-NT04). As such we advise that it cannot be determined/concluded that the further investigations proposed to be undertaken by ROC (as per LR/NK/4328/120123) will result in a circumstance whereby there is confidence comprehensive characterisation of underlying site conditions/plume is achieved. For avoidance of doubt, there will remain the potential for further additional investigations to be required, should a significant 'gap' in understanding continue to exist.

In linkage to the above, we would additionally advise you to consider the classification of Chlorinated Solvents as a non-polar organic. Our understanding of these

Cont/d..

contaminants is that, as non-polar organics, they have a negative effect on clays by causing them to breakdown and allow for greater penetration and permeation than could be normally expected. This is especially the case where this contaminant has been in contact with the clay strata for a prolonged period of time.

'The sufficiency of the schedule of laboratory testing determinands'

We are unable to provide direct narrative on the sufficiency of the laboratory testing suite. However, we can recommend that the testing suite(S) should reflect the likely/observed contaminants present; based on the previous historic uses of the development site. Additionally, we strongly advise field-based testing should be considered if you are to attempt to determine the state of the dichlorination process i.e. whether the plume is expanding, stable or reducing (potentially indicating active natural attenuation). For avoidance of doubt of this matter, given our role as regulator, the EA is unable to act as designer for any investigations/assessment work.

'That the number of boreholes (including existing wells) and rounds of testing will be sufficient, in your eyes, to robustly determine the presence or not of groundwater contamination across the site.'

Echoing the above, the sufficiency of the number and location of boreholes and rounds of testing is not a matter that we are not able to comment upon directly. We would refer you to the Land Contamination Risk Management (LCRM) guidance for further support on this matter.

However, we are to offer observation that the number and extent of investigation points should, in principle, be sufficient to develop a further comprehensive Conceptual Site Model (CSM), thereby aiding in the subsequent determination of remedial requirements. The CSM should be able to withstand thorough assessment and critique with the information collected being substantial enough to support the development of a Detailed Quantitative Risk Assessment (DQRA) thereafter.

Both the CSM and DQRA should be able to support an options appraisal and remediation strategy such that final validation and verification of any remedial activity is a straight forwards process and one that would, in turn, support the discharge of relevant planning conditions attached to any development planning permission subsequently granted by the governing LPA for the NT02-NT04 development site.

'That the scope of shallow investigation borehole within the warehouse will be sufficient, in your eyes, to robustly conclude whether contamination has an onsite or offsite source'

We would refer you to the original conceptual model(s) that have been developed for this site. We do not believe that shallow investigation boreholes alone are sufficient to determine whether the origin of a contaminant source is on or off-site.
The more accurate method of determining this is to consider the range of guidance documents that the EA and other environmental organisations have produced for Chlorinate Solvent contamination and identify if the subsequently collected data supports your chosen hypothesis.

'That the proposed programme of investigation, and control measures for reinstatement, do not, if carried out as specified, pose an unacceptable risk of causing further contamination – noting that previous drilling operations have already been undertaken in 2020 and 2022'

Cont/d..

We are unable to provide a direct answer to this question. Adoption of safe drilling techniques and good practices for ground investigation should minimise the risk of cross-contamination. In turn, we would refer you to relevant technique guidance and British Standards for additional technical information on the matter of drill/investigation technique.

Wider to the above, we acknowledge potential for installation failure or other installation problems will exist and cannot be wholly removed but, in turn, advise that by adopting safe techniques / following relevant good practice, the likelihood of an adverse occurrence can be kept ALARP.

--

*** 11.5 hours of ENVPAC/1/GMC/00443 utilised in facilitating review/response ***

We trust that you find the contents of this letter beneficial to further the progression of investigations and land contamination assessment for proposed development / plots NT02-NT04. However, you should have any queries or questions regard the contents of this letter and/or wish to seek further advice, guidance or discussion regarding this topic matter following the completion of additional ground investigations, then please don't hesitate to get in contact.

Yours sincerely,

Mr Andy Davies
Green Growth Team Project Manager

Direct e-mail andy.davies1@environment-agency.gov.uk

End

Reece McGuinness

From: Mike Newman
Sent: 11 December 2023 09:08
To: Laura Miller
Cc: Reece McGuinness; Alex Smiles
Subject: RE: Environmental Health Soil Screening Criterial - Permission 136814/FO/2023

Thanks Laura

We will be completing our remediation strategy aligned with the below.

Re the soil for the 1200mm planters, this will be imported.

Kind regards,

Mike

From: Laura Miller <laura.miller@manchester.gov.uk>
Sent: Monday, November 27, 2023 9:27 AM
To: Mike Newman <mike.newman@rocconsulting.com>
Cc: Reece McGuinness <reece.mcguinness@rocconsulting.com>; Alex Smiles <ASmiles@rsk.co.uk>
Subject: Re: Environmental Health Soil Screening Criterial - Permission 136814/FO/2023

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Good morning Mike

Thank you for the added information.

I am happy with the approach to zone the site and use public open space criteria for reuse for the green areas and commercial reuse under the buildings and hardstanding areas.

For the Orange areas and planting on the podium areas will this all be imported soil or are there plans to reuse site won soils as part of the 1200mm depth of soil?

Kind Regards

Laura

Laura Miller (MRes, MA, BSc(Hons))

Please note that due to working compressed hours Wednesdays are a non-working day for me, I will respond to your email when I return to the office

Environmental Protection Officer
Environmental Protection Section
Environmental Health
Neighbourhoods Directorate
Manchester City Council

email: laura.miller@manchester.gov.uk
website: www.manchester.gov.uk

Telephone: 0161 234 1742
Internal: 31742

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From: Mike Newman <mike.newman@rocconsulting.com>
Sent: 20 November 2023 09:27
To: Laura Miller <laura.miller@manchester.gov.uk>
Cc: Reece McGuinness <reece.mcguinness@rocconsulting.com>; Alex Smiles <ASmiles@rsk.co.uk>
Subject: RE: Environmental Health Soil Screening Criterial - Permission 136814/FO/2023

Laura

Many thanks for your swift response, and apologies for the delay in reply.

The further SI has now been completed and we are in the process of compiling the updated SI to captured this. Lab results still pending.

On the private courtyard, a number of these are formed on podium structures with under croft parking. Please see attached sketch indicating the building footprints, hard landscaping and other areas. The orange soil cells/green paving are part of the street scape and not private. The soil cells being a 1200mm deep crated system backfilled with planting medium and the green paving a mix of hard paving with intermediate grass/sedum strips.

As can be seen, significant portions of the site are in affect hard standing, meaning exposure to occupies from contaminated soils is minimal. Would you accept an approach which targets public open space screening only to the marked green areas? Given their size, this should be manageable from a earthworks management perspective.

Kind regards,

Mike

From: Laura Miller <laura.miller@manchester.gov.uk>
Sent: Monday, November 13, 2023 3:09 PM
To: Mike Newman <mike.newman@rocconsulting.com>
Cc: Reece McGuinness <reece.mcguinness@rocconsulting.com>; Alex Smiles <ASmiles@rsk.co.uk>
Subject: Re: Environmental Health Soil Screening Criterial - Permission 136814/FO/2023

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Hi Mike,

I have been passed your email as I provided the contaminated land comments for this site.

I have looked back at my comments and there was further site investigation to be undertaken including delineating TCE impact and some more gas monitoring. Has this now been undertaken?

In terms of your proposals below I have looked at the drawings and there is a fairly large private courtyard associated with NT04, as such I am not sure if commercial/industrial re-use criteria will be sufficient, even with the 600mm clean cover. I will need further justification for your choice of criteria as POSresi may be more appropriate given no private gardens are proposed.

To support any change in the site classification you will need to provide an associated DQRA, I have no objections to the change in reuse criteria below buildings and hardstanding and any small areas of landscaping, it is only with respect to private court yard areas/terraces/any areas of public realm and as such the site may need to be zoned accordingly.

I am happy to discuss your proposals with you and we can do this via teams (or similar).

Kind Regards

Laura

Laura Miller (MRes, MA, BSc(Hons))

Please note that due to working compressed hours Wednesdays are a non-working day for me, I will respond to your email when I return to the office

Environmental Protection Officer
Environmental Protection Section
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Neighbourhoods Directorate
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email: laura.miller@manchester.gov.uk
website: www.manchester.gov.uk
Telephone: 0161 234 1742
Internal: 31742

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From: Mike Newman <mike.newman@rocconsulting.com>
Sent: Friday, November 10, 2023 10:23 AM
To: Graeme Souter <graeme.souter@manchester.gov.uk>; Sharon McAndrew <sharon.mcandrew@manchester.gov.uk>
Cc: Reece McGuinness <reece.mcguinness@rocconsulting.com>; Alex Smiles <ASmiles@rsk.co.uk>
Subject: Environmental Health Soil Screening Criterial - Permission 136814/FO/2023

> Some people who received this message don't often get email from mike.newman@rocconsulting.com. Learn why this is important

Morning Graeme/Sharon

I am hoping you can assist, or point me in the right direction. We are completing the remediation strategy for permission 136814/FO/2023 and we would like to discuss the screening criterial for contaminated soils.

Given the following considerations, we would like to make a case for Commercial/Industrial screening criteria for the development.

1. The proposed development for Plots NT02-04 comprises high rise apartment style residential development with limited soft landscaping in public realm
2. The proposed ground floor plans (ref RDB-HBA-2X-LG-DR-AR-080098, RDB-HBA-2X-IT-DR-AR-080099 and RDB-HBA-2X-UG-DR-AR-080100, attached for reference) submitted with the planning app indicate there are

no residential aspects to the scheme at GF level (NT02 and NT03), with internal space comprising either lobby areas, lift pits, stairwells or commercial end uses.

3. Given the absence of more sensitive development on GF level the adoption of less stringent "Commercial / Industrial" Human Health Soil Screening criteria (GAC's) would be an appropriate classification for the development.
4. In addition, any areas of soft landscaping would require a 600mm clean natural soil capping systems that would require the use of imported soil screened against the more stringent apartment style residential end use criteria.

The use of less stringent commercial end use criteria for the soil reuse within our detailed Phase 3a Rem Strat would seem to be an appropriate measure for the site given ground floor usages. The adoption would also allow the retention of more site won material and soils on site, thereby reducing associated environmental impacts of its disposal from site.

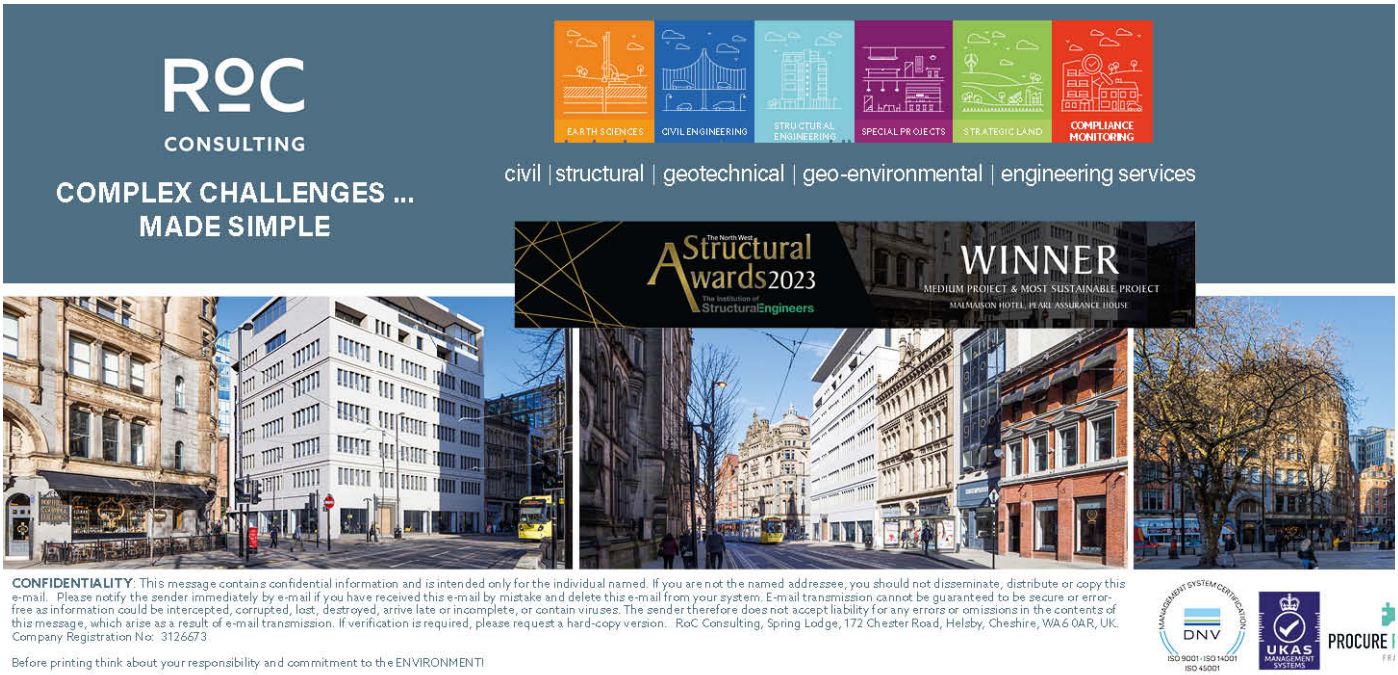
Would MCC EHO be acceptable to this approach?

Kind regards,

Mike

Mike Newman
BEng (Hons) CEng MIStructE
Projects Director
M 07432 708362
T 0161 2145390

www.rocconsulting.com



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Far East Consortium (FEC)
UK (London Office)
12 Stanhope Gate
London
W1K 1AW

Our ref: SO/2023/123379/01-L01
Your ref: Application '5'

Date: 14 September 2023

FAO: Linden Richardson / RoC Consulting (acting on behalf of FEC) / John Sherrington / SPC Limited (acting on behalf of FEC)

ENVPAC/1/GMC/00443 – Written Preliminary Review Phase 2 Site Investigation

TECHNICAL WRITTEN REVIEW - ENVIRONMENT AGENCY / FAR EAST CONSORTIUM – VICTORIA NORTH DEVELOPMENT PROPOSALS - PHASE 1

PLOTS NT02, NT03, NT04 ('Application 5') - LAND CONTAMINATION REVIEW AND RESPONSE LETTER FOR:

- **Phase 2 Site Investigation Plots NT02, NT03 and NT04 Dantzic Street. Prepared by RoC Consulting. Ref: 4328-ROC-zz-XX-RP-ES-P2-101. Rev 03. Date: 17th July 2023.**

- **Controlled Waters Risk Assessment, Plot NT02 Dantzic Street. Repared by RSK Geosciences. Ref. 11847 R01 (00). Rev. 00. Date: 18th July 2023.**

- **Remediation Strategy Report (Outline), Plot NT02-NT04, Northern Gate Dantzic Street. Prepared by RSK Geosciences. Ref. 11834 R01 (00). Date: 18th August 2023.**

LAND OFF DANTZIC STREET, PLOTS NT02, NT03 & NT04

Thank you for requesting advice from the Environment Agency (EA) in relation to land contamination matters on the Victoria North Development Plots NT02-NT04 under chargeable agreement ENVPAC/1/GMC/00443.

EA Review Context

We note the NT02-NT04 site, as part of the Victoria North Phase 1 development, is subject to historic contamination as a result of previous industrial land use. From the EA's engagement with the FEC project team to date and understanding of the Phase 1 Desk Study (by RoC Consulting, dated 12th January 2023) and Phase 2 Site Investigation (by RoC Consulting, dated 21st October 2023) previously produced, the most significantly impacted area of the development site is plot NT02. It was highlighted and agreed that additional site investigation work is required to delineate and understand the extent of the chlorinated solvents present on site to confidently determine the risk and, subsequently, establish an appropriate remediation strategy (SO/2023/122837/01-L01, dated 9th March 2023).

We note approval for Plots NT02-NT04 (also named 'Application 5') is currently being sought through Manchester City Council (MCC) planning application ref. 136814/FO/2023. The EA acknowledge the project team's intention to phase both the 'enabling' and 'construction' works for plots NT02-NT04 under 136814/FO/2023. The

EA has no objections with this approach in principle and had highlighted through engagement with the project team and within our formal response to the LPA, that any intrusive works / below ground demolition / material extraction will need to be supported by a firm understanding of the charactersation of ground conditions; associated risks; and remedial works, if necessary (SO/2023/123166/01-L01, dated 18th August 2023). With regards to the 'enabling works' package / phase, such understanding will be required prior to the commencement of these works with the exception of above ground activities, including site set-up; vegetation clearance and above ground demolition, to ensure contamination risks are managed appropriately.

The ground conditions / land contamination information submitted in support of 136814/FO/2023 (as previously reviewed by the EA under our pre-application engagement with the project team) sufficiently demonstrated that the risks to 'controlled waters' can be appropriately managed. Acknowledging the additional work required to sufficiently characterise / assess ground conditions and subsequent production of a remediation strategy for the development site, the EA recommended a pre-commencement planning condition for details of the additional site investigation / assessment work; remedial strategy; and verification plan to be submitted prior to the commencement of any phase of development (excluding site set-up; vegetation clearance and above ground demolition) (SO/2023/123166/01-L01, dated 18th August 2023). Wider to this, and in relation to contaminated land matters, the EA also recommended planning conditions for the submission of a verification report to demonstrate the success of proposed remedial works (by phase); an assessment for proposals that include surface water infiltration drainage; a risk assessment for proposed piling / foundation works; and a scheme for the management / decommissioning of boreholes on site (by phase).

[*The EA are awaiting confirmation of the intended final wording of the planning conditions on the Decision Notice for 136814/FO/2023 (email dated 25th August 2023))*]

We note the site investigation work and remedial approach will establish the appropriateness of a phased approach to both the 'enabling' and 'construction' phases of the development. Based on the information submitted in support of 136814/FO/2023 and through direct engagement with the project team, there was recognition that a phased remedial approach may not be achievable but recognise this would be subject to the findings of the additional site investigation work / assessment and subsequent remedial approach proposed.

The EA are now in receipt of the updated Phase 2 site investigation report (17th July 2023); controlled waters risk assessment (for NT02 only) (18th July 2023); and outline remediation strategy for Plots NT02-NT04 to demonstrate the progress made since our previous review to address the contaminated land issues at Plots NT02-NT04 (18th August 2023). This is with recognition of the intention to phase the proposed development for both the 'enabling' and 'construction' works.

Therefore, in line with the above context, please see below the EA's commentary on the review of the aforementioned reporting for Plots NT02 to NT04.

EA Commentary on Contaminated Land Matters for Plots NT02-NT04

[*Commentary below provided by EA Contaminated Land Advisor, Clay Durrant*]

The reporting submitted to date provides confidence that the risks to controlled waters from historic contamination, including chlorinated solvents, can be mitigated. The site

has been subject to good degree of investigation, with results used in support of a Detailed Quantitative Risk Assessment. Based on these, a robust remedial options appraisal has been presented which has identified viable options. We note relevant sections of the reports have identified the remaining uncertainties and recommended further works to address these as summarised below:

- Requirements for further intrusive works to better delineate the extent of TCE contamination both within soils and groundwater.

- Further testing of the hydraulic conductivity and hydraulic gradient.

- Ongoing monitoring to ensure that ground conditions are accurately captured.

- Updating the relevant documents as part of finalising the remedial strategy.

The above listed works are generally consistent with our assessment of the site-specific circumstances. While this information is required to ensure that appropriate remedial criteria is developed and allow for the design of a detailed remedial strategy, it is considered unlikely that the results will impact upon the viability of the identified remedial options in principle.

To support the additional work the EA understand will be undertaken as above, we have the following detailed commentary for the project team's consideration:

Delineation of Chlorinated solvents

We note borehole logs from NT02 indicate that the surface of the Manchester Marls dips to the southwest, with thickness of the Chester Formation increasing down dip. BH305 encountered the base of the Chester Formation at 23.15m AOD, with the depth to base increasing (elevation decreasing) as shown by BH202, BH303 to 18m AOD at BH203, a drop of 5.15m. The same trend is shown between BH305 and BH201 (19.60m AOD), with the base of the Chester Formation encountered at 19.60m AOD, a drop of 3.55m. ROCRBH301, terminated at 15.00m bgl (16.41m AOD) and did not encounter the base of the Chester Formation.

While the lower permeability marls are likely to limit the vertical migration of DNAPL (if present), migration down dip at the base of the Chester Formation / top of the Manchester Marls could occur.

As recognised in the report, further works are required to delineate soil and groundwater chlorinated solvents, namely TCE in areas of the site which have not been accessible due to current site operations. We have the following comments in relation to the approach undertaken on the delineation of chlorinated solvents to date:

- Currently the down dip locations within plot NT02 lack sufficient depth (i.e., boreholes which extend to the base of the Chester Formation). Additional investigation in this area must be sufficient to refine this aspect of the CSM and bridge the current, perceived, information gap.

- It is noted that several boreholes are screened at depth within the Manchester Marls. Groundwater samples obtained from these may not accurately capture the presence of chlorinated solvents, due to the lower permeability of the marls limiting vertical migration.

- Groundwater data from ROCRBH203, ROCRBH303 and LK RBH3 have all detected TCE significantly above the relevant assessment criteria. Concentrations are generally higher during the rounds completed in late 2022 and early 2023. Drivers for these trends have not been discussed and their significance remains unclear. This, in our opinion, makes the information gaps more significant and will need to be addressed in future reporting.

- Ongoing monitoring should help to better identify any trends and analysis of the results should consider the points such as strata individual boreholes are screened in and sample depths from within the water column.

The EA would welcome an opportunity to review the additional works / assessment on the delineation of chlorinated solvents once available. We note, in particular, that the extent of this contamination plume will influence the intended phasing / sequencing of works for plots NT02-NT04.

Controlled Waters Risk Assessment

We note sensitivity analysis has identified key parameters which require further refinement, with this data to be collected via further investigation works which is welcomed. Based on the current Controlled Waters Risk Assessment, we have the following comments to make:

Hydraulic conductivity (K)

Site specific K values have been obtained for the Chester Formation (286.50m/d from BH203 10-15m bgl and 19.70m from BH301 4-10m bgl), with a final value of 1.025m/day selected. This is based on the geometric mean of the higher measured value and the geometric mean of the literature value for sandstone. It is noted that this value has been selected to be representative of the flow within the weathered sandstone and the more competent bedrock. From local knowledge, the higher value obtained is potentially realistic. Sensitivity analysis has shown the model to be sensitive to this parameter so the proposal to undertake further investigations to achieve better characterisation is welcomed.

With respect to chlorinated solvents migrating vertically into the marls and therefore use of a K value for the sandstone being overly conservative, the lower permeability marls could also act to significantly limit vertical migration, with any DNAPL migrating down dip and dissolved phase migration primarily in the Chester Formation. Ultimately the final selected K value will need to be supported by the CSM.

Hydraulic gradient (i)

Due to the differing hydraulic properties between the sandstones and the marls, care should be taken to ensure ‘i’ is calculated from boreholes screened in the same strata.

Degradation rates

Rates for aerobic (based on site conditions) and anaerobic conditions have been used in the model as part of the sensitivity analysis, with model being shown to be highly sensitive. Ongoing monitoring to better constrain conditions within the aquifer and support selection of an appropriate rate are welcomed.

Cont/d..

Calibration

While model calibration is useful, care should be taken to ensure that down gradient locations used are representative ie. wells screened in the same strata, samples are appropriate depths within the water column, temporal fluctuations in groundwater flow direction have been considered.

The EA would welcome an opportunity to review the revised Controlled Waters Risk Assessment once supplementary information from the additional investigation works has been considered to refine this assessment.

Outline Remediation Strategy - Remedial options

While further investigation works are required to better refine the CSM and develop a detailed remedial strategy, we agree with the conclusion that it is very unlikely the results will materially alter the identified remedial options.

Of the 2 preferred options with respect to groundwater, the EA considers option 1 (hydraulic containment and MNA) is the least suitable. Current levels of information are not sufficient to support MNA and time frames for implementing such a strategy are unlikely to be compatible with those of the development.

Option 2 (in situ chemical reduction) would be the preferable option. This will more likely achieve remedial objectives in an appropriate time frame. Post completion, MNA has been identified as a polishing off option. The EA would be supportive of this approach provided it is supported by the post in-situ works monitoring data. It is noted the option of undertaking additional in-situ works has been included if required.

As previously mentioned, the EA is concerned that DNAPL may be present, having migrated down dip. Currently, there is no inclusion of a strategy to deal with any recoverable DNAPL. However, from experience it is known that options exist which should be implementable on the site in the case of recoverable DNAPL being discovered.

Retaining Wall

It is understood that the enabling works will include a bored piled retaining wall to provide support to the railway line as part of the ‘enabling works’ phase. This wall will require piled foundations and it is likely this work will need to be completed as part of the remedial works. From the information available, it would seem that the piled works will be located close to but outside the areas of soil and groundwater contamination, however, we would welcome confirmation on this matter. From engagement with the project team, we welcome the intention to produce a Piling Risk Assessment, given the potential for mobilisation of contamination and creation of new contamination pathways. We would welcome further discussions on how these works will be managed.

Enabling Works Phasing

It is understood the ground remediation works are to be undertaken as part of the ‘enabling works’. It is the EA’s understanding that additional investigation and remedial works will potentially run concurrently to an ‘enabling works’ phase. In principle, phasing works in this manner could be acceptable provided there are sufficient controls in place to ensure such enabling works will not increase risk to ‘controlled waters’ and prejudice requirements for further investigation or implementation of the remedial strategy. As in

Cont/d..

the above context of this review, it is critical the ‘enabling works’ are cognisant of contamination risks and ensures that these are appropriately managed.

Whilst it is potentially feasible to combine the additional works required with the enabling phases of the development, this is dependent upon receiving satisfactory information demonstrating how each phase of the enabling works will be managed so as not to jeopardise further investigation and remediation, whilst ensuring no adverse impacts on contamination as a result of such works (i.e. where intrusive works are undertaken prior to remedial works). If the project team intend to progress with this approach, the EA would welcome an opportunity to undertake an initial review (or discussion) on the phasing plan for the ‘enabling works’ (as currently required by planning condition under 136814/FO/2023) which includes narrative that is cognisant to these matters and inclusion of the intended sequencing of such works per phase.

--

We trust that you find the contents of this letter beneficial to further the progression of land contamination matters for proposed development / plots NT02-NT04. However, should you have any queries or questions regard the contents of this letter and/or wish to seek further advice, guidance or discussion regarding this topic matter following the completion of additional ground investigations, then please don’t hesitate to get in contact.

Yours faithfully

Ms Anne-Marie McLaughlin
Planning Advisor

Direct e-mail anne-marie.mclaughlin@environment-agency.gov.uk

End

Far East Consortium (FEC)
UK (London Office)
12 Stanhope Gate
London
W1K 1AW

Our ref: SO/2023/123379/01-L01
Your ref: Application '5'

Date: 14 September 2023

FAO: Linden Richardson / RoC Consulting (acting on behalf of FEC) / John Sherrington / SPC Limited (acting on behalf of FEC)

ENVPAC/1/GMC/00443 – Written Preliminary Review Phase 2 Site Investigation

TECHNICAL WRITTEN REVIEW - ENVIRONMENT AGENCY / FAR EAST CONSORTIUM – VICTORIA NORTH DEVELOPMENT PROPOSALS - PHASE 1

PLOTS NT02, NT03, NT04 ('Application 5') - LAND CONTAMINATION REVIEW AND RESPONSE LETTER FOR:

- **Phase 2 Site Investigation Plots NT02, NT03 and NT04 Dantzic Street. Prepared by RoC Consulting. Ref: 4328-ROC-zz-XX-RP-ES-P2-101. Rev 03. Date: 17th July 2023.**

- **Controlled Waters Risk Assessment, Plot NT02 Dantzic Street. Repared by RSK Geosciences. Ref. 11847 R01 (00). Rev. 00. Date: 18th July 2023.**

- **Remediation Strategy Report (Outline), Plot NT02-NT04, Northern Gate Dantzic Street. Prepared by RSK Geosciences. Ref. 11834 R01 (00). Date: 18th August 2023.**

LAND OFF DANTZIC STREET, PLOTS NT02, NT03 & NT04

Thank you for requesting advice from the Environment Agency (EA) in relation to land contamination matters on the Victoria North Development Plots NT02-NT04 under chargeable agreement ENVPAC/1/GMC/00443.

EA Review Context

We note the NT02-NT04 site, as part of the Victoria North Phase 1 development, is subject to historic contamination as a result of previous industrial land use. From the EA's engagement with the FEC project team to date and understanding of the Phase 1 Desk Study (by RoC Consulting, dated 12th January 2023) and Phase 2 Site Investigation (by RoC Consulting, dated 21st October 2023) previously produced, the most significantly impacted area of the development site is plot NT02. It was highlighted and agreed that additional site investigation work is required to delineate and understand the extent of the chlorinated solvents present on site to confidently determine the risk and, subsequently, establish an appropriate remediation strategy (SO/2023/122837/01-L01, dated 9th March 2023).

We note approval for Plots NT02-NT04 (also named 'Application 5') is currently being sought through Manchester City Council (MCC) planning application ref. 136814/FO/2023. The EA acknowledge the project team's intention to phase both the 'enabling' and 'construction' works for plots NT02-NT04 under 136814/FO/2023. The

EA has no objections with this approach in principle and had highlighted through engagement with the project team and within our formal response to the LPA, that any intrusive works / below ground demolition / material extraction will need to be supported by a firm understanding of the charactersation of ground conditions; associated risks; and remedial works, if necessary (SO/2023/123166/01-L01, dated 18th August 2023). With regards to the 'enabling works' package / phase, such understanding will be required prior to the commencement of these works with the exception of above ground activities, including site set-up; vegetation clearance and above ground demolition, to ensure contamination risks are managed appropriately.

The ground conditions / land contamination information submitted in support of 136814/FO/2023 (as previously reviewed by the EA under our pre-application engagement with the project team) sufficiently demonstrated that the risks to 'controlled waters' can be appropriately managed. Acknowledging the additional work required to sufficiently characterise / assess ground conditions and subsequent production of a remediation strategy for the development site, the EA recommended a pre-commencement planning condition for details of the additional site investigation / assessment work; remedial strategy; and verification plan to be submitted prior to the commencement of any phase of development (excluding site set-up; vegetation clearance and above ground demolition) (SO/2023/123166/01-L01, dated 18th August 2023). Wider to this, and in relation to contaminated land matters, the EA also recommended planning conditions for the submission of a verification report to demonstrate the success of proposed remedial works (by phase); an assessment for proposals that include surface water infiltration drainage; a risk assessment for proposed piling / foundation works; and a scheme for the management / decommissioning of boreholes on site (by phase).

[*The EA are awaiting confirmation of the intended final wording of the planning conditions on the Decision Notice for 136814/FO/2023 (email dated 25th August 2023))*]

We note the site investigation work and remedial approach will establish the appropriateness of a phased approach to both the 'enabling' and 'construction' phases of the development. Based on the information submitted in support of 136814/FO/2023 and through direct engagement with the project team, there was recognition that a phased remedial approach may not be achievable but recognise this would be subject to the findings of the additional site investigation work / assessment and subsequent remedial approach proposed.

The EA are now in receipt of the updated Phase 2 site investigation report (17th July 2023); controlled waters risk assessment (for NT02 only) (18th July 2023); and outline remediation strategy for Plots NT02-NT04 to demonstrate the progress made since our previous review to address the contaminated land issues at Plots NT02-NT04 (18th August 2023). This is with recognition of the intention to phase the proposed development for both the 'enabling' and 'construction' works.

Therefore, in line with the above context, please see below the EA's commentary on the review of the aforementioned reporting for Plots NT02 to NT04.

EA Commentary on Contaminated Land Matters for Plots NT02-NT04

[*Commentary below provided by EA Contaminated Land Advisor, Clay Durrant*]

The reporting submitted to date provides confidence that the risks to controlled waters from historic contamination, including chlorinated solvents, can be mitigated. The site

has been subject to good degree of investigation, with results used in support of a Detailed Quantitative Risk Assessment. Based on these, a robust remedial options appraisal has been presented which has identified viable options. We note relevant sections of the reports have identified the remaining uncertainties and recommended further works to address these as summarised below:

- Requirements for further intrusive works to better delineate the extent of TCE contamination both within soils and groundwater.

- Further testing of the hydraulic conductivity and hydraulic gradient.

- Ongoing monitoring to ensure that ground conditions are accurately captured.

- Updating the relevant documents as part of finalising the remedial strategy.

The above listed works are generally consistent with our assessment of the site-specific circumstances. While this information is required to ensure that appropriate remedial criteria is developed and allow for the design of a detailed remedial strategy, it is considered unlikely that the results will impact upon the viability of the identified remedial options in principle.

To support the additional work the EA understand will be undertaken as above, we have the following detailed commentary for the project team's consideration:

Delineation of Chlorinated solvents

We note borehole logs from NT02 indicate that the surface of the Manchester Marls dips to the southwest, with thickness of the Chester Formation increasing down dip. BH305 encountered the base of the Chester Formation at 23.15m AOD, with the depth to base increasing (elevation decreasing) as shown by BH202, BH303 to 18m AOD at BH203, a drop of 5.15m. The same trend is shown between BH305 and BH201 (19.60m AOD), with the base of the Chester Formation encountered at 19.60m AOD, a drop of 3.55m. ROCRBH301, terminated at 15.00m bgl (16.41m AOD) and did not encounter the base of the Chester Formation.

While the lower permeability marls are likely to limit the vertical migration of DNAPL (if present), migration down dip at the base of the Chester Formation / top of the Manchester Marls could occur.

As recognised in the report, further works are required to delineate soil and groundwater chlorinated solvents, namely TCE in areas of the site which have not been accessible due to current site operations. We have the following comments in relation to the approach undertaken on the delineation of chlorinated solvents to date:

- Currently the down dip locations within plot NT02 lack sufficient depth (i.e., boreholes which extend to the base of the Chester Formation). Additional investigation in this area must be sufficient to refine this aspect of the CSM and bridge the current, perceived, information gap.

- It is noted that several boreholes are screened at depth within the Manchester Marls. Groundwater samples obtained from these may not accurately capture the presence of chlorinated solvents, due to the lower permeability of the marls limiting vertical migration.

- Groundwater data from ROCRBH203, ROCRBH303 and LK RBH3 have all detected TCE significantly above the relevant assessment criteria. Concentrations are generally higher during the rounds completed in late 2022 and early 2023. Drivers for these trends have not been discussed and their significance remains unclear. This, in our opinion, makes the information gaps more significant and will need to be addressed in future reporting.

- Ongoing monitoring should help to better identify any trends and analysis of the results should consider the points such as strata individual boreholes are screened in and sample depths from within the water column.

The EA would welcome an opportunity to review the additional works / assessment on the delineation of chlorinated solvents once available. We note, in particular, that the extent of this contamination plume will influence the intended phasing / sequencing of works for plots NT02-NT04.

Controlled Waters Risk Assessment

We note sensitivity analysis has identified key parameters which require further refinement, with this data to be collected via further investigation works which is welcomed. Based on the current Controlled Waters Risk Assessment, we have the following comments to make:

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Site specific K values have been obtained for the Chester Formation (286.50m/d from BH203 10-15m bgl and 19.70m from BH301 4-10m bgl), with a final value of 1.025m/day selected. This is based on the geometric mean of the higher measured value and the geometric mean of the literature value for sandstone. It is noted that this value has been selected to be representative of the flow within the weathered sandstone and the more competent bedrock. From local knowledge, the higher value obtained is potentially realistic. Sensitivity analysis has shown the model to be sensitive to this parameter so the proposal to undertake further investigations to achieve better characterisation is welcomed.

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Cont/d..

Calibration

While model calibration is useful, care should be taken to ensure that down gradient locations used are representative ie. wells screened in the same strata, samples are appropriate depths within the water column, temporal fluctuations in groundwater flow direction have been considered.

The EA would welcome an opportunity to review the revised Controlled Waters Risk Assessment once supplementary information from the additional investigation works has been considered to refine this assessment.

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Option 2 (in situ chemical reduction) would be the preferable option. This will more likely achieve remedial objectives in an appropriate time frame. Post completion, MNA has been identified as a polishing off option. The EA would be supportive of this approach provided it is supported by the post in-situ works monitoring data. It is noted the option of undertaking additional in-situ works has been included if required.

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Cont/d..

the above context of this review, it is critical the ‘enabling works’ are cognisant of contamination risks and ensures that these are appropriately managed.

Whilst it is potentially feasible to combine the additional works required with the enabling phases of the development, this is dependent upon receiving satisfactory information demonstrating how each phase of the enabling works will be managed so as not to jeopardise further investigation and remediation, whilst ensuring no adverse impacts on contamination as a result of such works (i.e. where intrusive works are undertaken prior to remedial works). If the project team intend to progress with this approach, the EA would welcome an opportunity to undertake an initial review (or discussion) on the phasing plan for the ‘enabling works’ (as currently required by planning condition under 136814/FO/2023) which includes narrative that is cognisant to these matters and inclusion of the intended sequencing of such works per phase.

--

We trust that you find the contents of this letter beneficial to further the progression of land contamination matters for proposed development / plots NT02-NT04. However, should you have any queries or questions regard the contents of this letter and/or wish to seek further advice, guidance or discussion regarding this topic matter following the completion of additional ground investigations, then please don’t hesitate to get in contact.

Yours faithfully

Ms Anne-Marie McLaughlin
Planning Advisor

Direct e-mail anne-marie.mclaughlin@environment-agency.gov.uk

End

Reece McGuinness

From: Reece McGuinness
Sent: 15 December 2023 15:07
To: Reece McGuinness
Subject: FW: ENVPAC/1/GMC/00443 - VN FEC + EA - NT02-NT04 Remedial Strategy Approach Discussion

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From: McLaughlin, Anne-Marie <Anne-Marie.McLaughlin@environment-agency.gov.uk>
Sent: Friday, November 24, 2023 12:33 PM
To: Mike Newman <mike.newman@rocconsulting.com>
Cc: Appleton, Shannon <Shannon.Appleton@environment-agency.gov.uk>; Beveridge, Lee <lee.beveridge@environment-agency.gov.uk>; Alex Smiles <ASmiles@rsk.co.uk>; Davies, Andy <Andy.Davies1@environment-agency.gov.uk>; John Sherrington <john.sherrington@spclimited.co.uk>; Durrant, Clay <Clay.Durrant@environment-agency.gov.uk>
Subject: RE: ENVPAC/1/GMC/00443 - VN FEC + EA - NT02-NT04 Remedial Strategy Approach Discussion

CAUTION: This email originated from outside the Organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Afternoon Mike,

Many thanks for the below and confirmation of timescales / updates, I can confirm receipt of the remediation strategy (soils only) and look forward to the additional submission at a later date. Please see below some initial advice / queries from the correspondence below to aid in our forthcoming review:

Screening Criteria

Appreciate discussions are ongoing with Laura (MCC EH) around agreeing the screening criteria for soils. As initial comments from Clay on this matter, we note in the Phase 2 Site Investigation & DQRA (by ROC, dated 23rd August 2023) that the table under 6.4.4 includes leachate testing which reported exceedances when compared to DWS for a range of substances (organics, heavy metals) whilst Table 6.4.8 summarises the results in groundwater where GACs have been exceeded. Whilst it is common for leachate testing to overestimate, this acts as an important sense check. For example, leachate testing reports leachable lead max at 2970ug/l but no groundwater samples are reported to exceed the GAC of 10ug/l (DWS).

Whilst we are comfortable with human health considerations being the main driver to determine screening criteria in this instance, as soil quality needs to be protective of all receptors where a pathway exists we advise that once this has been agreed it is documented and also demonstrates that the level of risk to 'controlled waters' is acceptable.

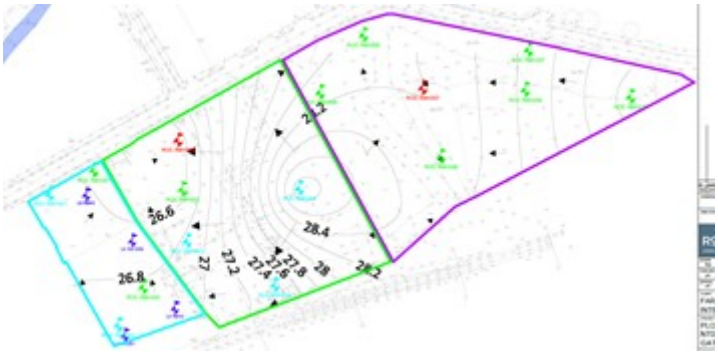
Contingency Plan

Thanks for the update and noted work is progressing with regards to the contingency plan between the soil remediation and groundwater remediation. We would advise this element is covered in detail within the remediation strategy for the soil remediation (currently submitted) in addition to the intended narrative to be presented within the Phasing Plan for the Enabling Works. We can continue with our review of the remediation strategy for soils only at this time, on the understanding the 'contingency plan' element will be provided at a later date.

NT02-NT04 Construction boundaries

As an initial comment on the boundaries presented for plots NT02-NT04 on drawings within the Phase 2 / Phase 3 reporting and for the context of our understanding on the subsequent construction phases (connection being with verification requirements for groundwater remediation), can you confirm at this time drawing (1) below is the current understanding of boundaries for plots NT02-NT04 and not (2)? Cross checks with proposed plans would indicate Drawing (1) reflects the separate plots.

(1)



(2)



Any queries, please feel free to contact me.

Many thanks,
Anne-Marie

Anne-Marie McLaughlin
Planning Advisor, Green Growth Team & Sustainable Places Team | Greater Manchester, Merseyside, Cheshire
Environment Agency | Richard Fairclough House, Knutsford Road, Latchford, Warrington WA4 1HT
SP Team Email: SPPlanning.RFH@environment-agency.gov.uk
Mobile: **07717344174**
Pronouns: she/her



From: Mike Newman <mike.newman@rocconsulting.com>
Sent: Thursday, November 23, 2023 4:38 PM
To: McLaughlin, Anne-Marie <Anne-Marie.McLaughlin@environment-agency.gov.uk>
Cc: Appleton, Shannon <Shannon.Appleton@environment-agency.gov.uk>; Beveridge, Lee <lee.beveridge@environment-agency.gov.uk>; Alex Smiles <ASmiles@rsk.co.uk>; Davies, Andy

<Andy.Davies1@environment-agency.gov.uk>; John Sherrington <john.sherrington@spclimited.co.uk>; Durrant, Clay <Clay.Durrant@environment-agency.gov.uk>
Subject: RE: ENVPAC/1/GMC/00443 - VN FEC + EA - NT02-NT04 Remedial Strategy Approach Discussion

Afternoon Anne-Marie

Please find below link to remediation strategy (for soils outside of the TCE plume). The updated Phase 2 reporting including the mound will follow tomorrow.

The intent is to update this remediation strategy as we incorporate further requirements for dealing with the TCE soils and Ground Water. These updates will obviously include borehole protection/decommissioning and other items discussed previously.

https://we.tl/t-vkMmVl3sU4

In response to your queries below.

- The Phase 2 including mound and raw data will be issued tomorrow.
- Previous ground water monitoring was including in our Phase 2 issued in June and review previously. Water monitoring of the current phase is ongoing.
- The phasing plan will provide overarching information on the strategy phasing as well as contingency plan. We are in the process of coordinating this with the contactor and we will share once agreed.

Mike

From: McLaughlin, Anne-Marie <Anne-Marie.McLaughlin@environment-agency.gov.uk>
Sent: Thursday, November 23, 2023 12:14 PM
To: Mike Newman <mike.newman@rocconsulting.com>
Cc: Appleton, Shannon <Shannon.Appleton@environment-agency.gov.uk>; Beveridge, Lee <lee.beveridge@environment-agency.gov.uk>; Alex Smiles <ASmiles@rsk.co.uk>; Davies, Andy <Andy.Davies1@environment-agency.gov.uk>; John Sherrington <john.sherrington@spclimited.co.uk>; Durrant, Clay <Clay.Durrant@environment-agency.gov.uk>
Subject: RE: ENVPAC/1/GMC/00443 - VN FEC + EA - NT02-NT04 Remedial Strategy Approach Discussion

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Hi Mike,

No problem at all and thanks for the update. Just a few queries for clarity so we can touch base with Clay on the incoming review request:

- Is a revised Phase 2 report, including mound and raw data, alongside the remediation strategy for soils only intended to be issued by the end of the week?
- Does the raw data intended to be included as part of the submission include any early groundwater monitoring results at this time?
- Does the remediation strategy for soils provide overarching context to the remedial approach to the site (phasing of soil and groundwater remediation) and include a contingency plan for groundwater remediation (point III in Andy's email)?

Any queries, let us know.

Many thanks,
Anne-Marie

Anne-Marie McLaughlin
Planning Advisor, Green Growth Team & Sustainable Places Team | Greater Manchester, Merseyside, Cheshire
Environment Agency | Richard Fairclough House, Knutsford Road, Latchford, Warrington WA4 1HT
SP Team Email: SPPlanning.RFH@environment-agency.gov.uk
Mobile: **07717344174**
Pronouns: she/her



From: Mike Newman <mike.newman@rocconsulting.com>
Sent: Thursday, November 23, 2023 10:59 AM
To: McLaughlin, Anne-Marie <Anne-Marie.McLaughlin@environment-agency.gov.uk>
Cc: Appleton, Shannon <Shannon.Appleton@environment-agency.gov.uk>; Beveridge, Lee <lee.beveridge@environment-agency.gov.uk>; Alex Smiles <ASmiles@rsk.co.uk>; Davies, Andy <Andy.Davies1@environment-agency.gov.uk>; John Sherrington <john.sherrington@spclimited.co.uk>; Durrant, Clay <Clay.Durrant@environment-agency.gov.uk>
Subject: RE: ENVPAC/1/GMC/00443 - VN FEC + EA - NT02-NT04 Remedial Strategy Approach Discussion

Morning Anne-Marie

Apologies for now getting back to you, but as the remediation strategy (for soils) and Phase 2 report including mound we not far off, we held on sending the raw data. This are complete and under internal review, so should be issued shortly.

We are in discussion with Laura at EH about screening criteria, the current strategy works on the basis of Residential end use without plant uptake, we will report further is relaxation is deemed acceptable under areas of hardstanding and building footprints.

Kind regards,

Mike

From: McLaughlin, Anne-Marie <Anne-Marie.McLaughlin@environment-agency.gov.uk>
Sent: Thursday, November 23, 2023 10:34 AM
To: Mike Newman <mike.newman@rocconsulting.com>
Cc: Appleton, Shannon <Shannon.Appleton@environment-agency.gov.uk>; Beveridge, Lee <lee.beveridge@environment-agency.gov.uk>; Alex Smiles <ASmiles@rsk.co.uk>; Davies, Andy <Andy.Davies1@environment-agency.gov.uk>; John Sherrington <john.sherrington@spclimited.co.uk>; Durrant, Clay <Clay.Durrant@environment-agency.gov.uk>
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Morning Mike,

Hope you are well,

Just checking-in on the submission of information to the EA as highlighted in yellow within Andy's email below. Happy to receive updated timescales on when this will be issued to us if anything has changed since our discussion last Thursday.

Many thanks,
Anne-Marie

Anne-Marie McLaughlin
Planning Advisor, Green Growth Team & Sustainable Places Team | Greater Manchester, Merseyside, Cheshire
Environment Agency | Richard Fairclough House, Knutsford Road, Latchford, Warrington WA4 1HT
SP Team Email: SPPlanning.RFH@environment-agency.gov.uk
Mobile: **07717344174**
Pronouns: she/her



From: Davies, Andy <Andy.Davies1@environment-agency.gov.uk>
Sent: Thursday, November 16, 2023 2:53 PM
To: John Sherrington <john.sherrington@spclimited.co.uk>; Mike Newman <mike.newman@rocconsulting.com>; Durrant, Clay <Clay.Durrant@environment-agency.gov.uk>; McLaughlin, Anne-Marie <Anne-Marie.McLaughlin@environment-agency.gov.uk>
Cc: Appleton, Shannon <Shannon.Appleton@environment-agency.gov.uk>; Beveridge, Lee <lee.beveridge@environment-agency.gov.uk>; Alex Smiles <ASmiles@rsk.co.uk>
Subject: RE: ENVPAC/1/GMC/00443 - VN FEC + EA - NT02-NT04 Remedial Strategy Approach Discussion

Afternoon John / Mike,

Thanks again for your time this morning to discuss considerations toward the phased remediation of Victoria North Plots NT02-NT04 / Application 5. As follow-on to this, please see below our summary of key discussion points/actions arising from the meeting:

I. In the interim to further groundwater monitoring result (full suite anticipated mid-Dec) ROC will be seeking to progress the development an outline remedial strategy/approach.

II. It is currently the anticipated the phased remediation approach for the site will be taken forward in two 'enabling works' phases . These phases of remediation are broadly (1) a site wide soils remediation, (2) a site wide groundwater remediation (extent of TCE plume determining). However, it is recognised that confirmation of the final suitability of this remedial approach will be subject to the outcome of further investigations.

III. In relation to (II) above, noting the inability at this present moment to confidently determine the likely timescale which will lapse between remedial phases (1) and (2) and present ongoing efforts to achieve an effectual characterisation of the TCE Plume, it will be important that the phase (1) remediation (utilising active groundwater monitoring) includes a 'contingency plan' element . The aim of this contingency plan element is to ensure that any potential adverse risks to controlled waters known and/or further identified can be appropriately managed (utilising a groundwater monitoring network which will need to be protected for the duration of relevant site works). We anticipate the extent and importance of this contingency plan will hopefully become clearer upon the obtainable of results from additional groundwater monitoring undertaken.

In terms of the contingency plan, the key questions for the EA surrounding the appropriateness of this will be:

- How will effectual monitoring of the site 'interim' condition be achieved? – Borehole network.
- Soil remediation works notwithstanding, if an adverse groundwater situation is identified what are the actions/measures intended to be taken to mitigate and address this risk? E.g. evidence the TCE has begun to expand in response to Phase 1 works.

- Subject to groundwater risk to be further quantified, if it identified upon the breaking out of hard standing/floor slabs the potential exists for this to be the 'status-quo' of the site for a prolonged period of time or it is deemed there is a potential significant risk exists of contaminant mobilisation from exposure to the elements (rainfall), what actions are intended to be take to mitigate and address this risk. E.g. reduction in infiltration potential.

III. Further to III above, for the purpose of remedial phase (2) it will be critical that there is confidence that the remedial strategy proposed is appropriate/reflective to 'present' site conditions at that enabling works stage i.e. fully reflective of the interim remedial status of the site. We consider that the contingency plan element of phase (1) discussed above could potentially play a key role in achieving this subject to the level of risk associated with groundwater contamination. For example, if mobilisation of the contaminant plume is identified a significant potential risk, then contingency plan measures can act to prevent this occurring and help to maintain the 'status quo' of groundwater conditions, wider to protection of the environment. This understandably will have a benefit for ensuring prior ground investigation and risk assessment remain valid and beneficial.

IV. Irrespective of the final remedial strategy approach taken forward for the development site, it will be critical that the 'Enabling Works' phase plan submitted for the purpose of condition (4) is fully reflective and harmonious to the intended remedial strategy approach. We note complications could occur if there is an intention to try progress the 'construction phase(s)' of the development ahead of site remedial strategy completion. We consider this risk of complication is amplified if uncertainty remains regarding the extent of contamination present e.g. extent of TCE plume.

V. In terms of post-meeting actions:
   - Noting interrelation to VN HIF funding, @John Sherrington will seek to further understand the level of confidence in remedial strategy required at this stage in proceedings to progress relevant contractual arrangements and revert back to the EA as appropriate.
   - W/c 20th Nov @Mike Newman / ROC will seek to send to the @Durrant, Clay/ EA for review/comment the results of additional ground investigations undertaken on the NR mound, any useful early groundwater monitoring results and an outline of the remedial strategy intended for the site. Upon receipt EA will advise further on review timescales.

@John Sherrington / @Mike Newman – Further to the above, as post-meeting note, whilst it possible to envisage that the remedial strategy approach proposed / discussed today (undertaking in singular phase of work above ground soils remediation) should hopefully avoid the potential of complications whereby the protection of human health is concerned. It would be advisable to also share early for review/commentary and outline remedial strategy/approach with our Environmental Health counterparts at MCC. In the instance of Application 5 as suspect this will be Environmental Health Officer, Laura Miller - laura.miller@manchester.gov.uk.

**

Any queries or questions regarding any of the above, then please don't hesitate to get in contact.

Kind regards,
Andy

Andy Davies
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*****

-----Original Appointment-----
From: Davies, Andy
Sent: Monday, November 13, 2023 1:20 PM
To: Davies, Andy; Durrant, Clay; McLaughlin, Anne-Marie; John Sherrington; Mike Newman
Cc: Appleton, Shannon; Beveridge, Lee
Subject: ENVPAC/1/GMC/00443 - VN FEC + EA - NT02-NT04 Remedial Strategy Approach Discussion
When: 16 November 2023 10:00-11:30 (UTC+00:00) Dublin, Edinburgh, Lisbon, London.
Where: Microsoft Teams Meeting

All,

Further to recent email correspondence, please accept and forward as appropriate this MS Teams invite. This meeting with the EA is being facilitated under chargeable agreement ENVPAC/1/GMC/00443.

The primary intention of this meeting is discuss remedial strategy/enabling phase requirements for the purpose of further progressing Victoria North 'Application 5' / 136814/FO/2023.

Outline Meeting Agenda

- Introductions
- Collective agreement to meeting agenda/scope.
- FEC Strategic Update
  - *Status of Application 5 Determination*
  - *Decision Notice / Condition Wording*
  - *Timescale and programme of further works / investigations intended.*
- ROC / FEC presentation of remedial approaches being considered and associated rationale.
- Collective discussion regarding remedial approaches.
- Agreement of post-meeting actions.
- AOB

Any queries or questions the please don't hesitate to get in contact.

Kind regards,
Andy

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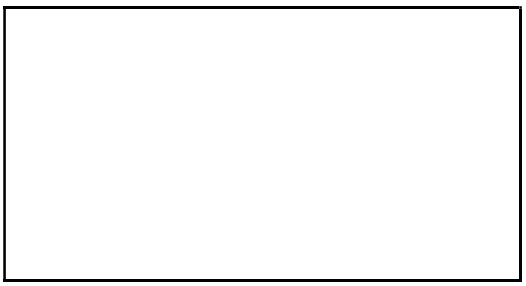
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Reece McGuinness

From: Durrant, Clay <Clay.Durrant@environment-agency.gov.uk>
Sent: 13 December 2023 18:21
To: Emma Hobbs
Cc: Mike Newman; Alex Smiles; Laura Aspinall; Reece McGuinness; john.sherrington@spclimited.co.uk; McLaughlin, Anne-Marie; Davies, Andy
Subject: RE: NVPAC/1/GMC/00443 - EA / FEC - VN 'Application 5' (Plots NT02-NT04) Enabling Works and Remedial Approaches

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Hi Emma,

I would agree that the general lack of benzene in the Chester formation is strange- as you have stated it would be likely that an on-site source would result on an impact on the sandstone and the marls.

In terms of going forward the suggestion to carry on dealing with the TCE issue and provide a further commentary re the hydrocarbons in the marls makes sense.

While I appreciate the data from the new locations is limited, my initial impressions are as follows:

Following up with lab re benzene makes sense. Have there been any further monitoring rounds in 500 series yet?

BH502- this has reported the highest concentrations of TPH in the principal aquifer. The fractions reported have a low to very low mobility which, when considering the groundwater flow direction in the sandstone suggests an off site/localised source. I think the current lack of any down gradient concentrations supports the conclusion that these present a low risk.

Has the Lod benzene changed? I note that for some locations 1ug/l is highlighted yellow indicating a detection while for some rounds the result is given as <1ug/l (taken as Lod).

BH503- was benzene recorded in the sandstone (result of 19ug/l)?

Groundwater flow in the marls is suggestive of the plots NT03 and NT04 being upgradient- there might be a source located here which is able to reach the marls but if memory serves there are cohesive till deposits which would limit migration. Again, from memory it looks like upgradient bores in the marls are not reporting benzene? It would perhaps be useful to look at the elevations these are screened and compare to the 500 series bores and see if they are monitoring the same section of the aquifer.

I think looking at the groundwater elevations in the marls and the sandstones along the elevations of the top of the marls is interesting- it looks like as the marls dip to the west groundwater elevation in the marls is greater than the top of the marls so is there a degree of confinement? This could be a useful line of evidence re lack of pathway into the marls from the site.

So far, on the balance of things I am not seeing any reason to consider that benzene is a risk driver, although some additional groundwater monitoring would be useful to allow for the issue to be bottomed out. Happy to discuss further,

Kind regards

Clay Durrant

Groundwater and Land Quality Technical Specialist
Green Growth and Delivery ← Visit our SPOL site
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+447825903545

From: Emma Hobbs <EHobbs@rsk.co.uk>
Sent: Monday, December 11, 2023 9:53 AM
To: Durrant, Clay <Clay.Durrant@environment-agency.gov.uk>
Cc: Mike Newman <mike.newman@rocconsulting.com>; Alex Smiles <ASmiles@rsk.co.uk>; Laura Aspinall <laspinall@rsk.co.uk>; Reece McGuinness <reece.mcguinness@rocconsulting.com>; john.sherrington@spclimited.co.uk; McLaughlin, Anne-Marie <Anne-Marie.McLaughlin@environment-agency.gov.uk>; Davies, Andy <Andy.Davies1@environment-agency.gov.uk>
Subject: NVPAC/1/GMC/00443 - EA / FEC - VN 'Application 5' (Plots NT02-NT04) Enabling Works and Remedial Approaches

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Hi Clay,

It was lovely to meet you on the call on Tuesday. We'd very much like to take you up on the offer you made towards the end of the call, about reviewing raw data ahead of our formalised submission. If this offer is still available, we would like to query some recent data with you and gauge your opinion.

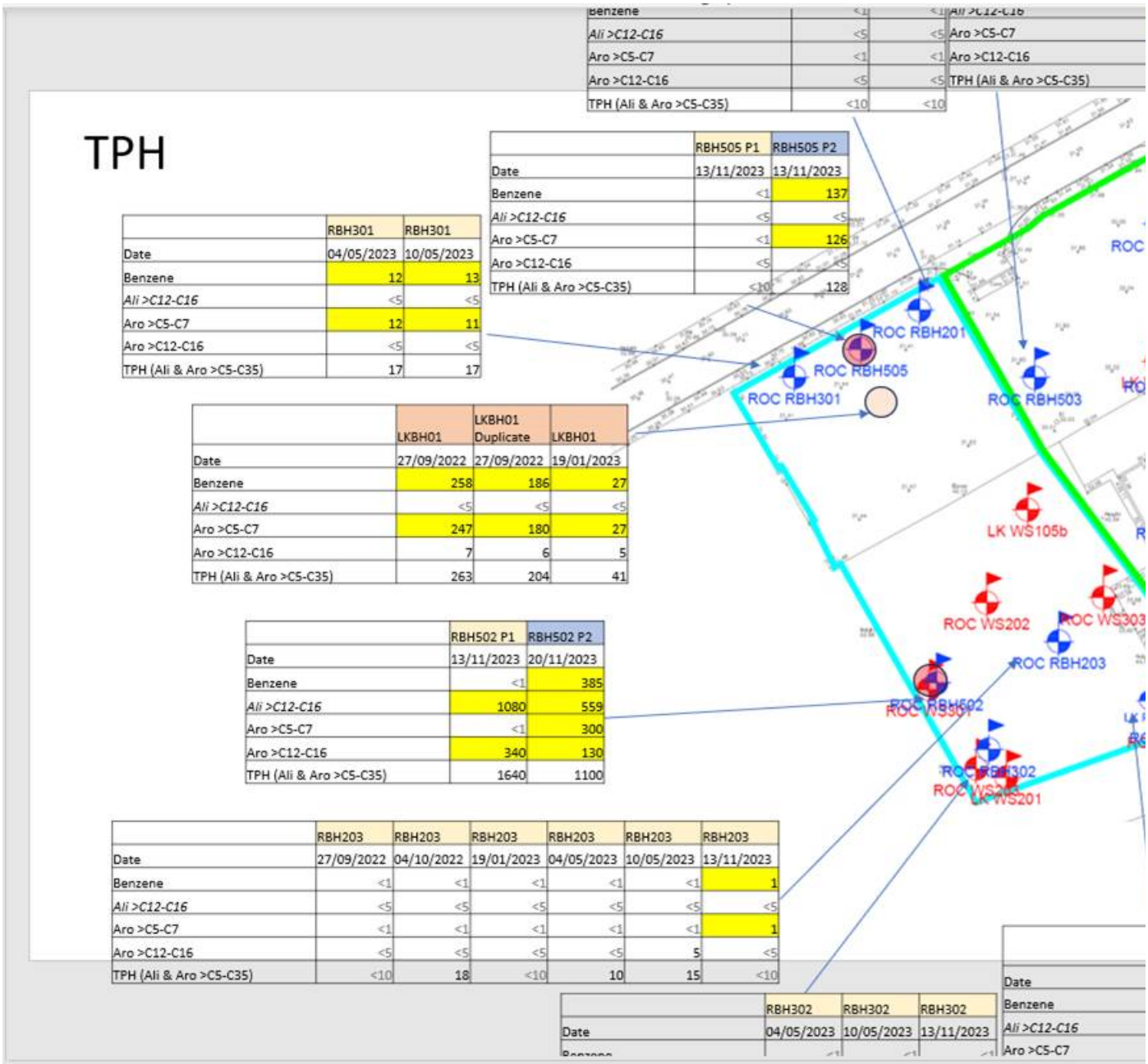
Our risk assessor has reviewed the most recent round of groundwater sampling data (sampled in November 2023). Lighter end aromatic and aliphatic hydrocarbon bands were detected in groundwater samples from the following boreholes as shown in the screenshot below.

- ROC RBH502 P1 (Chester sandstone) and P2 (top of Manchester Marl) located along the southwest boundary
- ROC RBH505 P2 (top of Manchester Marl) located along the northwestern site boundary)

This is in addition to the previous benzene detections in the northwest of the site at

- RBH301 (Chester sandstone)
- LKBH01 (installed across the Chester sandstone and into the top of the Manchester Marl)

We note that we only have one sample collected from the 500 BH series and we are asking the lab to double check the result for benzene particularly in RBH502 P2 is correct.



Localised elevated TPH concentrations predominantly aromatic fractions C10 – C35 were detected in soils at locations across the site, but no significant concentrations of benzene were detected, indicating the source is either located in an area of the site not sampled or is potentially migrating via groundwater from an off-site source.

We note that it is unusual that the lighter TPH fractions/benzene appear to be primarily within the deeper marl rather than the overlying sandstone which may indicate it is more likely to be due to an off-site source such as the historic rubber works to the west and/or the gas works to the south and north. This is supported by the distribution of the TCE groundwater plume which is from a known on-site source and which has remained predominantly in the sandstone aquifer and has not significantly penetrated into the marl. However, given the groundwater in the marl is indicated to flow east to west in line with the dip in the marl across the site and since we do not have other nearby upgradient groundwater quality information from the shallow marl, it is not possible to rule out an on-site source, although no obvious source such as tanks etc are shown in this area of the site on the available historic mapping and no detectable levels of benzene reported in made ground.

As the contamination is in the deeper marl (secondary B aquifer) and not in the overlying principal sandstone aquifer, the benzene is still not considered to be a primary risk driver for site remediation.

We would propose to submit the DQRA for TCE and remediation strategy within the planned time scales along with further commentary on the hydrocarbons in marls from a potential off-site source. However, we would appreciate your feedback on the above and welcome any comments on this emerging issue.

We have attached the following for information.

- Factual GQRA screening sheets for soil and groundwater
- Groundwater contour plots for the CHES and MM
- The MM surface contour plot

Kind regards,
Emma

Emma Hobbs
BSc(hons) MSc CSci FGS

Principal Environmental Consultant

RSK GEOSCIENCES

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Please note I work flexible hours Monday to Friday with my core hours being between 10am and 4pm.

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APPENDIX I – DETAILED QUANTITATIVE RISK ASSESSMENT REPORT



RoC Consulting

Plot NT02 Dantzic Street

Controlled Waters Risk Assessment

Project No. 11847 R01 (00)

RSK GEOSCIENCES

JULY 2023

RSK GENERAL NOTES

Project No.: 11847 R01 (00)

Title: Controlled Waters Risk Assessment, Plots NT02 Dantzic Street

Client: RoC Consulting

Date: 18 July 2023

Office: RSK Environment Limited, Fourways House, 57 Hilton Street, Manchester, M1 2EJ

Status: Draft

Author	Ulisse Pizzi / Laura Aspinall	**Technical reviewer**	Alex Smiles/ Laura Aspinall
Date:	July 2023	Date:	July 2023
Project manager	Alex Smiles	**Quality reviewer**	Joyce Saddington
Date:	July 2023	Date:	July 2023

Revision control sheet

Revision reference	Date	Reason for revision
Rev 00	18/07/2023	First issue

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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.

This work has been undertaken in accordance with the quality management system of RSK Environment Ltd.

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APPENDICES

Appendix A Service constraints
Appendix B Hydraulic conductivity data
Appendix C Controlled waters generic assessment criteria
Appendix D Model input parameters
Appendix E Quantitative modelling results
Appendix F Sensitivity analysis results
Appendix G Model calibration
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EXECUTIVE SUMMARY

Objective	RSK Geosciences have been instructed by RoC Consulting to complete a Detailed Quantitative Risk Assessment (DQRA) associated with the "Plot NT02" development parcel of the Plot NT02-04 residential led development henceforth known as "The site"). Ground investigation works across the site have revealed an area of Trichloroethylene contamination in soils and groundwater that have been deemed to pose a risk to controlled waters at the Generic Risk Assessment screening stage. The following DQRA has been completed to further assess the significance of this area of contamination in terms of risks posed to identified receptors and also support the development of a wider Phase 3a Remediation Strategy. The modelling assessment is being completed in tandem with a program of desk based and intrusive ground investigation works completed by RoC Consulting the findings of which are described in the below referenced documents. RoC Consulting, Phase 1 Desktop Study, January 2023 (ref: 4328-ROC-ZZ-XX-RP-ES-PH1DTS) RoC Consulting, Phase 2 Site Investigation Plot NT02, NT03 & NT04 dated July 2023 (ref: 4328-ROC-ZZ-XX-RP-ES-P2-101) It is recommended the above reports are reviewed in tandem with the current assessment
Site details	The site termed "Plot NT02" covers a roughly rectangular parcel of land within the wider Plot NT03 & 04 development master plan area. The site is bounded by Dantzic Street to the north beyond which lies a Travellers site and the River Irk (flowing roughly NE to SW); an electrified railway line on a viaduct to the south with car repair garages; the wider Plot NT0X site to the east (comprising a former waste management operator); and the Victoria Riverside high rise apartment scheme to the west. Topographically a fall in site levels is noted across the site in a roughly south to north orientation toward the River Irk, with levels varying between 34.80 mAOD and 31.20 mAOD across the Plot NT02 site. The site is to be developed for high rise residential led end uses comprising the construction of a 34-storey tower with associated public realm space, limited soft landscaping and hard standing. A planning application for this development has been lodge with the local authority (Manchester City Council, ref: 136814/FO/2023) for which this report and assessment has been collated to support with the associated discharge of pre-commencement conditions pertaining to ground contamination risks.

SITE CONCEPTUALISATION	
Previous works	A number of rounds of ground investigation have been completed across the Plot NT02 site, these include the aforementioned Phase 1 & 2 report collated by RoC Consulting in 2023 which capture the findings of previous works completed by LK Consult Ltd. The investigations have been completed to inform both design and planning requirements and are subdivided within the RoC Phase 2 SI report into plot specific ground conditions and risks. Controlled waters have been considered for the whole planning application boundary, noting the effects of soil borne contamination on one plot may manifest as ground water impacts on another. The design and layout of ground investigations was based on the findings of the Phase 1 Desktop study and works previously completed by LK Consult to characterise geological and geo-environmental conditions beneath the site, support the design of new building foundations / structures, inform waste disposal requirements and identify any contamination issues warranting remediation treatment. The recent RoC ground investigations were completed in two phases, an initial phase of exploratory works was undertaken in September and October 2022 to establish ground conditions across the Plot NT02 site. Along with identifying baseline ground conditions across the site the 2022 works revealed the presence of the Trichloroethylene (TCE) contamination plume beneath a warehouse to the south of the Plot NT02 site. The plume, which is believed to relate to former metal work operations on this portion of the site (degreasing agents) was subject to further investigations in April 2023 to further assess its spatial extent and significance. The findings of this most recent round of ground investigations have been used to form the basis for this DQRA assessment.
Ground conditions	Ground conditions generally comprise tarmac or concrete over made ground and a variable thickness of cohesive Till over the Chester sandstone formation (principal aquifer) and the Manchester Marl formation (secondary aquifer). Groundwater was encountered within the underlying weathered bedrock and based on groundwater contours is anticipated to flow in a north-northwest direction towards the River Irk.
Extent of soil contamination	A diffuse TCE soil plume is reported to cover the southern area of the site covering approximately the full width of the site within the footprint of an historic metal works.
Extent of groundwater contamination	A dissolved phase plume of TCE was detected in the south underlying the soil source extending northeast onto the adjacent Plot NT03. TCE daughter products were detected in groundwater in the north of the site
Potentially complete contaminant linkages	The following pollution linkages have been identified as being of relevance to the DQRA process:

	• Vertical migration of leachable contaminants from impacted soils present in the unsaturated zone to the underlying Chester formation and Manchester Marl formation aquifers. • Vertical and lateral migration of dissolved phase contaminants through the Chester sandstone aquifer to identified controlled water receptors including the wider Chester formation and Manchester Marl formation aquifers.
GENERIC QUANTITATIVE RISK ASSESSMENT	
GQRA conclusions	The RoC Phase 2 report concluded that the TCE and carbon tetrachloride detected in soil and groundwater and the TCE daughter products DCE and VC detected in groundwater in the north of the site required further assessment by DQRA.
DETAILED QUANTITATIVE RISK ASSESSMENT	
DQRA results	Modelling of the soil source in the south of the site indicates a marginal exceedance of the target concentration for TCE at the 50.00 m compliance with concentrations falling below the DWS at a distance of 75.00 m. For the groundwater source the predicted concentrations of trichloroethene and dichloroethane at the 50.00 m compliance point exceed the target concentration by an order of magnitude and vinyl chloride is predicted to be at a concentration marginally under the DWS. The predicted concentrations of trichloroethene and dichloroethene fall below the DWS at a distance of 125 m. Sensitivity analysis demonstrated that the model is particularly sensitive to hydraulic conductivity, hydraulic gradient and degradation rates for which there is currently limited site-specific data available, and it is recommended that additional monitoring works are undertaken to address these uncertainties. However, it is noted that model calibration against TCE concentrations detected at down gradient borehole LKBH01 indicates that the current model setup is likely to be highly conservative.
CONCLUSIONS AND RECOMMENDATIONS	
Conclusions	Modelling indicates that the TCE detected in unsaturated soils and the existing TCE dissolved phase plume, and its daughter products pose a potential risk to the wider principal aquifer. Screening of soil and groundwater data against the modelled RTV indicates that remediation of soils and groundwater at the site is required. Whilst it is acknowledged that there is some degree of uncertainty in the current model, a calibration check of the model demonstrated that it is likely highly conservative and therefore it is considered that the proposed RTV are suitably protective of controlled waters receptors and will provide a significant degree of betterment at the site.

Recommendations	• Copies of this report, along with the RoC Consulting Phase 2 Site Investigation should be provided to the regulatory authorities to review and provide comment. Any comments received from these regulators should be taken into account when completing any further model runs. • On going groundwater monitoring of wells installed during all phases of ground investigations should be continued so that a more reflective indication of groundwater levels and flow gradients can be obtained • Further hydraulic conductivity testing should be completed on wells installed into the Manchester Marls formation to allow the use of site-specific values within the RTM model • At such a time when the site is in vacant possession, or access is more readily available, further sampling of site soils should be completed to confirm the full spatial extent of the plume. Alternatively, advice should be sought from regulatory authorities to confirm they agree with the current assumed plume extents. • This report and associated RTM model should be revisited and updated to reflect new data obtained from site with a view to reducing the conservative nature of some assumptions made and allow more appropriate site specific RTV's to be derived for soils and groundwaters. • Copies of this report, along with the wider RoC Consulting Phase 1 & 2 site investigations should be provided to remediation specialists to consider and advise comment.
Key assumptions and limitations	It is noted monitoring works are on going on site and, as outlined in conclusions above, the content of this report and modelling assessment will require revision once additional site data is available. Similarly, and as a result of access limitations during the most recent round of ground investigations by RoC, the precise extent of the TCE plume is not fully defined. As such a "worst" case value of the highest concentrations of contaminants have been used when defining the plume in the model, which will lead to more conservative resultant outputs.
The information given in this summary is necessarily incomplete and is provided for initial briefing purposes only. The summary must not be used as a substitute for the full text of the report.	

1 INTRODUCTION

RSK Environment Limited (RSK) was commissioned by RoC Consulting (RoC), the Client, to prepare a controlled waters detailed quantitative risk assessment (DQRA) for the land at Plots NT02-04 Dantzic Street ('the site'). The site is proposed to be developed as with a mixture of high and medium rise residential buildings to heights of between 20 and 35 stories with smaller buildings varying in heights of between 4 and 8 storeys. The development is also anticipated to include small areas of soft landscaping, and a new access road. The project was carried out to an agreed brief as set out in RSK's proposal (Ref. 11847 TL01 (00), dated June 2023).

This report is subject to the RSK service constraints given in **Appendix A**.

1.1 Background

The site is located at Manchester, at approximate National Grid reference E384690 N399470.

The site has historically been divided into three plots for planning purposes – Plot NT02 in the west, Plot NT03 in the centre and Plot NT04 in the east. Each of these has distinct land uses, as follows:

- Plot NT02 occupies the western portion of the site and comprises a light industrial building with several smaller buildings, associated access road and areas of hardstanding.
- Plot NT03 occupies the centre of the site. It is understood that a portion of the south of Plot NT03 is owned by Network Rail. The north of the plot is largely covered with hardstanding while the southern part and Network Rail land are occupied by two large earth mounds which likely overlap somewhat.
- Plot NT04 is comprised of semi vegetated disused land.

Historically the site was occupied by residential housing, a smithy, Victoria Screw & Bolt Works, Victoria Paint Works, printing works, a foundry, tripe works, and a warehouse.

Further details regarding the site are presented in **Section 2**.

There have been a number of geo-environmental site investigations previously undertaken at the site, including:

- Phase 2 site investigation report, completed by RoC Consulting in October 2022 (ref. 4328-ROC-ZZXX-RP-ES-P2-101 Rev01), updated following completion of supplementary SI works in June 2023.
- RoC Consulting, January 2023. Technical Note on Plot NT03 Network Rail Mound (ref. 4328-ROCZZ-XX-TN-ES-TN2)
- RoC Consulting, January 2023. Phase 1 Desktop Study (ref: 4328-ROC-ZZ-XX-RP-ES-PH1DTS)
- LK, March 2020. Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy, at Plot NT02 only (ref: CL-602-LKC 20 1060-01)
- Allied Exploration & Geotechnics Ltd, March 2019. Northern Gateway Final Factual Report (Contract Number: NW1580)

- Hydrock, December 2015. Ground Conditions Desk Study (ref: R/151819/G001)

This controlled waters DQRA report has been completed in order to support the refinement of risks posed by Trichloroethylene contaminants noted beneath the site to the southern and western extent and the associated chlorinated VOC groundwater plume. It is envisaged the outputs from this modelling assessment will be used to revise the refined conceptual site model postulated in recent the RoC Consulting Phase 2 site investigation report and support the design of remediation works moving forward. The overarching aim of all works will be to support planning condition discharge for the development and associated engagement with the regulatory authorities (namely Manchester City Council and the Environment Agency).

1.2 Objective and aims

The objective of this report was to evaluate risks to controlled waters receptors at Plot NT02. The aims of this report are to:

- carry out a controlled waters DQRA for the site in accordance with development of the site for high rise residential housing, using historical data and more recently obtained soil and groundwater data;
- derive site-specific targets for comparison to groundwater quality data;
- derive remedial targets to inform remediation of the site;
- provide initial recommendations for future work.

1.3 Scope

The scope of the investigation and layout of this report has been designed with consideration of Land Contamination Risk Management (LCRM) (Environment Agency, 2020) – which supersedes CLR11 Model Procedures for Land Contamination, and BS 10175: 2011 + A2 2017 (BSI, 2017) and guidance on groundwater protection issued by the EA (2017a) and includes:

- a review of previous reports;
- interpretation of recently acquired hydraulic conductivity field tests data;
- refinement of the hydrogeological assessment of the site;
- preparation of a controlled waters DQRA.

1.4 Existing reports

The following reports detailing previous works at the site were made available for review:

- Phase 2 site investigation report, completed by RoC Consulting in October 2022 (ref. 4328-ROC-ZZXX-RP-ES-P2-101 Rev01), updated following completion of supplementary SI works in June 2023.
- RoC Consulting, January 2023. Phase 1 Desktop Study (ref: 4328-ROC-ZZ-XX-RP-ES-PH1DTS).

Pertinent information from these reports has been summarised in **Section 3**. For ease of reference hereafter, the above Phase 2 report will be referenced as “RoC Phase 2” report.

1.5 Limitations

The comments given in this report and the opinions expressed are primarily based on third party data and investigations, while RSK will undertake a critical review of the information provided we cannot be held liable for the quality of the data provided. There may be conditions pertaining to the site that have not been disclosed by the investigations and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigations or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and groundwater concentrations may vary from those reported due to seasonal, or other, effects.

2 SITE DETAILS

2.1 Site location

Site location details are presented in **Table 1**.

Table 1: Site location details

Site name	Plots NT02-04, Dantzic Street, Manchester
Full site address and postcode	M4 4NL
National Grid reference (centre of site)	E384690, N399470

2.2 Site description

The site covers an area of circa 2.30 hectares. It is currently occupied by the land uses detailed in **Section 1.1**.

2.3 Development plans

The proposed layout of the site, at the time of preparing this report, is shown in RDB-MLA-00-XX-DR-AR-01110000 in Appendix A of the RoC Phase 2 report.

It is understood that the site is to be developed with a mixture of high and medium rise residential

buildings, with the former to heights of between 20 and 35 stories and the latter to heights of between 4 and 8 storeys. The development is also anticipated to include small areas of soft landscaping, and a new access road passing between NT02 and NT03 and continuing to the east along the southern site boundary.

No information on service routes or details of any changes planned in site levels have been provided. As such, for the purpose of this report it has been assumed that the current levels will remain unchanged. In addition, it is assumed a basement structure will not be constructed as part of the new development phases.

2.4 Surrounding land uses

The site is located in Manchester city centre, nearby Victoria Station, within a predominantly residential / car parking setting. Immediate surrounding land uses are described in **Table 2** overleaf.

Table 2: Surrounding land uses

North	Dantzic Street to the north with an area occupied by caravans and warehousing beyond, and the River Irk beyond.
East	Dalton Street and residential housing.
South	Network Rail viaduct.
West	Victoria Riverside development.

2.5 Site history/operations

Based on the site's historical use a number of potentially contaminative activities/land uses were undertaken in the southern area of the site. These included the Victoria Screw and Bolt works from before 1891, the Victoria Paint Works from circa 1908, the Collyhurst Foundry from circa 1948, Asphalt Works and Tripe Works from circa 1958 and a rubber works from circa 1989.

More recently a waste management company known as Farlam Waste Management is known to have operated in the eastern portion of this plot, only having ceased operation within the past decade; anecdotal evidence from discussions on site with excavator operatives indicate the southern portion of the Plot NT02 was also used as a yard for construction plant.

The northern area of the site was occupied by terraced residential properties between the late 19th and mid-20th centuries before the entire area was turned over to commercial industrial / warehousing operations during the 1970's and 1980s.

The site is also surrounded by potential historic sources of contamination that may have impacted the site via migration of contaminated groundwater including a gasworks to the south, a rubber works to the west and gas holders to the north.

3 PREVIOUS REPORTS

A summary of pertinent information from previous investigations is included below in **Table 3** Relevant information relating to the identified ground and groundwater conditions has not been included within the table below but has been incorporated into **Section 4**.

Table 3: Summary of previous investigation reports

Report 1	
Report details	LK, March 2020. Phase 2 Geo-Environmental Investigation, Risk Assessment and Remediation Strategy, at Plot NT02 only (ref: CL-602-LKC 20 1060-01) Summary based on review of report presented within the RoC 2023 GI report.
Site coverage	Whole site
Summary scope of works	The LK investigation comprises 7 window sample locations to a maximum depth of 4.45 m bgl and 2 rotary borehole locations to a maximum depth of 20.0 m bgl covering the whole of Plot NTO2.
Does the client have reliance upon the report?	Yes
Key findings relevant for controlled waters	Results from chemical testing undertaken by LK Consult revealed the following issues in the Plot NT02 regarding contamination: • Elevated levels of Heavy Metals (Lead) in soil at WS104, SP1 and SP2 (Likely associated with ash, clinker and coal noted within made ground deposits) • Elevated levels of PAHs - Benzo(a)pyrene and Naphthalene in soil at WS102, WS103, WS105, TP103, TP105 SP1 and WS205 (Likely associated with ash, clinker and coal noted within made ground deposits) • Elevated levels of TPH – Aliphatic C12-C16, Aromatic C8-C10 and Aromatic C10-C12 in soil at WS205 (beneath the light industrial building and likely associated with the numerous historic industrial activities in this area of the site) • Elevated levels of VOCs/SVOCs – Benzene and Trichloroethene in made ground and superficial deposits at WS205, WS201, WS202 and WS204. PID readings in the southwest of the plot also indicate the presence of volatile contamination with readings between 4.3ppm and

	207ppm (Likely associated with the historic industrial activity in this area of the site); • Elevated concentrations of contaminants in groundwater including Vinyl chloride at RBH101 and Trichloroethene in RBH103. The report hypothesizes these may be linked to historic industrial activity on site or a result of historic industry across the wider area, such as the former gasworks.
Report 2	
Report details	Phase 2 site investigation report, completed by RoC Consulting in October 2022 (ref. 4328-ROC-ZZXX-RP-ES-P2-101 Rev01), updated following completion of supplementary SI works in June 2023.
Site coverage	The 2022 RoC site investigation covered the whole of NT02 whilst the 2023 supplementary focused primarily in the south of the site
Summary scope of works	The scope of the 2022 SI comprised 4 window sample locations, 2 trial pits and 2 rotary borehole locations to a maximum depth of 25m bgl spread across the whole of Plot NT02. The scope of the 2023 SI comprised 9 window sample locations in the south of the site and 2 rotary boreholes to a maximum depth of 18.00 mbgl. Several additional boreholes were also drilled on the adjacent NT03 site to the east.
Does the client have reliance upon the report?	Yes
Key findings relevant for controlled waters	Numerous contaminants were detected in unsaturated soils at the soils at the site. Namely heavy metals/inorganics including arsenic and lead, TPH fractions, PAH and VOC/SVOC including TCE, hexachloroethane and low levels of numerous other chlorinated compounds, BTEX and phenol derivatives. Highest concentrations and frequency of TPH and VOC were detected in Plot NT02, primarily in the southern area where historic industrial activities including the bolt works and foundry were located. Soil leachate results indicated the potential for the DWS to be exceeded in the underlying groundwater particularly at Plot NT02 where numerous exceedances were reported for metals/inorganics, PAH, TPH fractions and TCE Trichloroethene exceedances of the DWS were reported in groundwater in the shallow sandstone in LK BH03 and RBH203 located in the south of Plot NT02 and extending over the eastern

	site boundary to RBH303 located in Plot NT03. Carbon tetrachloride was also reported to exceed the DWS in LK BH01, LK BH03, RBH 203, RBH302 Benzene and TCE daughter compounds cis-1,2-dichloroethene, trans 1,2-dichloroethene, vinyl chloride were reported to exceed the DWS in the shallow sandstone in the north of the site. It was noted that the metals, PAH compounds and TPH fractions detected in leachate testing and the other SVOC detected in soils testing were not reported at concentrations exceeding the GAC in groundwater likely due to degradation in the unsaturated zone given and/or more preferential sorption to soils. The report concluded that a potentially complete pollutant linkage for the migration of chlorinated VOC to the wider principal and secondary aquifers and recommended further assessment of potential risks to controlled waters via DQRA specifically for TCE, carbon tetrachloride, cis and trans-1,2-dichloroethene and vinyl chloride. Due to the localised nature of the detection of benzene in the northwest of the site and the absence of benzene detection in soils and soil leachate at the site it was concluded that the benzene detected in groundwater was more likely due to an off-site source and benzene was not considered a risk driving compound for the site and thus was not proposed for inclusion within the recommended DQRA.

4 SITE CONCEPTUALISATION

Information presented in this section has been mainly obtained from the previous RoC GIR updated report (June 2023) mentioned in **Section 1.4**.

4.1 Geology

The borehole records from the RoC (June 2023) report have been used to summarise the encountered geology and the results are given in **Table 4**. The historical investigations confirm the Published geological records for the site area (British Geological Survey, Sheet 85). Geology is summarised for Plots NT03 and NT04 in addition to NT02 to provide information about the wider geological setting.

Table 4: Geology at the site

Geological unit	Description	Historically encountered thickness (m)
Made Ground	In Plot NT02 there is a surface covering of concrete and tarmac within and outside of buildings which is typically underlain by Made Ground of demolition fill type material. Typically, this is a gravelly sand or sandy gravel containing whole and half bricks and chunks of concrete; gravel of brick fragments, slate, clinker, and slag. Other anthropogenic inclusions included wire, metal, glass, plastic, metal pipes and beams, clay pipes, fabric, rubber, and timber.	2.50 (m)
	In Plot NT03 there is a surface covering of concrete and tarmac within and outside of buildings which is typically underlain by Made Ground of demolition fill type material.	3.10 (m)
	The southern part of NT04 is surfaced with a concrete slab while the remainder comprises overgrown vegetation and weeds. Made ground was generally encountered as a gravelly sand or gravelly clay containing clinker, concrete, brick, slag, slate, coal, and ceramics.	8.40 (m)

Geological unit	Description	Historically encountered thickness (m)
Superficial deposits – River Terrace Deposits ***(Plot NT03 only)***	Encountered in PlotNT03 located adjacent to the east of Plot NTO2 in one location (RBH304) beneath Made Ground, as rounded sandy gravel of sandstone, quartzite and siltstone from a depth of 3.60 m to termination at a depth of 9.45 m. It is also feasible these soils may extend further to the east into Plot NT04.	5.85 (m) not fully proven by drilling
Superficial deposits – Till (Devensian)	Underneath PlotNT02, the Till is often thin and sometimes comprises granular soils. Most typically Devensian Till was encountered as brown sandy gravelly clay ranging in consistency from very soft to stiff but generally becoming stiff with depth.	2.50 (m)
	Underneath PlotNT03, the Till was encountered as a firm to stiff slightly gravelly slightly sandy clay.	5.80 (m)
	Underneath PlotNT04, the Till was typically encountered as a stiff brown or blueish grey clay, slightly gravelly in places. The Till is thickening progressively from West to East.	7.80 (m)
Bedrock – Chester Formation (Lower Triassic sandstones)	PlotNT02 Bedrock of the Chester Formation (CHES) was encountered beneath Devensian Till deposits in all locations in NT02. The upper horizons of the Chester Formation were encountered to be significantly weathered and are effectively sand for up to the first 8.00 m. Deeper horizons of the bedrock also show weaknesses and may be affected by faulting (Section 2.2).	15.07 (m)
	PlotNT03 Bedrock of the Chester Formation was encountered beneath Devensian Till deposits in all locations in NT03; the upper horizons of the Chester Formation are significantly weathered and are effectively sand for up to the first 6m. Deeper horizons of the bedrock also show weaknesses and may be affected by faulting.	1.0 (RBH306) – 6.32 (RBH206, Plot04 west)

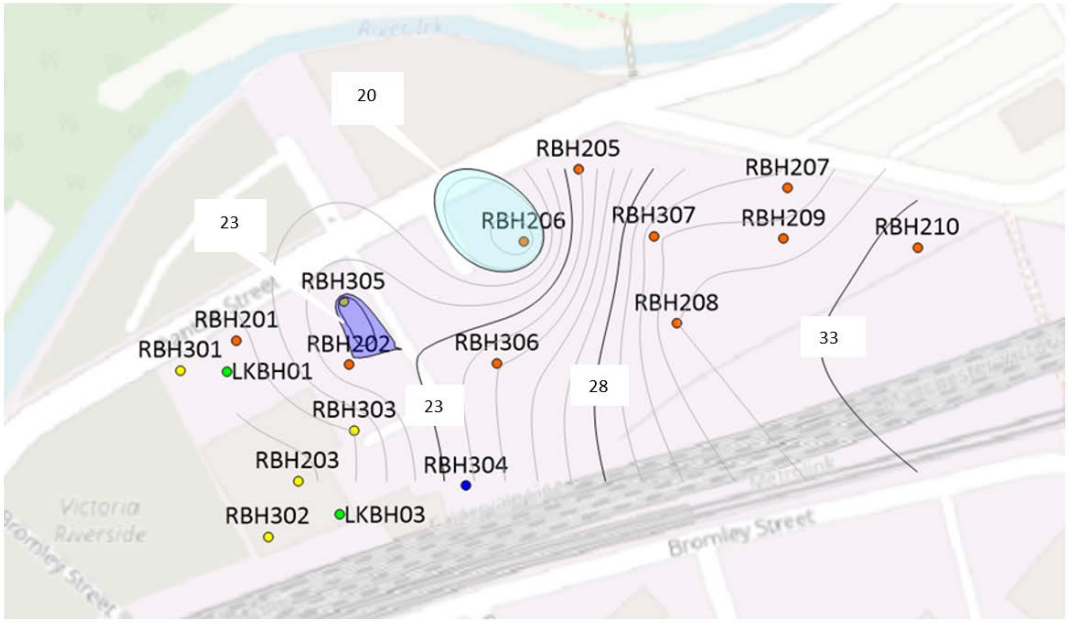
Geological unit	Description	Historically encountered thickness (m)
	Plot NT04 Bedrock of the Chester Formation was encountered in only one location at the western edge of NT04, RBH206. The upper horizons of the Chester Formation are significantly weathered. The Chester Formation is thinning progressively from West to East.	Absent
Bedrock – Manchester Marls Formation (Upper Permian mudstones)	Plot NT02 Reddish brown MUDSTONE recovered as clay when weathered, with interbedded siltstone laminated layers and layers of weak reddish brown fine grained SANDSTONE, up to ~3.00 m thick.	MM was proven by drilling up to a depth of 25.00 mbgl.
	Plot NT03 Reddish brown MUDSTONE and fine to medium grained reddish brown SANDSTONE in layers up to 1.50 m thick.	
	Plot NT04 Reddish brown MUDSTONE and weak reddish brown fine grained SANDSTONE and siltstone thin layers < 1.00 m.	
Source: On-site exploratory hole records presented in ROC Phase 2 report.		

The historic exploratory hole locations are shown on Figures presented in Appendix A of the RoC Phase 2 report.

It is considered that the top weathered portion of the Manchester Marls (MM) formation forms an aquifer connected with the CHES Formation. However, being less permeable than the CHES, and the MM underlying the weathered CHES on Plot NTO2 may represent a point of TCE accumulation on the vertical ground profile.

Manchester Marl surface contours

A map of the top of the MM is presented below, showing in the PlotNT02/NT03 area, a depression around RBH305 and RBH202, and a high point at RBH206 in the north of PlotNT03 (levels are shown in mAOD). As discussed in the following sections, the above depression is consistent with an area with lower hydraulic heads, thickest bedrock, and the general direction of the development of the dissolved TCE plume, originating from the TCE source area located in the south of PlotNT02.



A wider discussion of the hydrogeological implications of the bedrock structural setting is provided in the **Section 4.3** (Hydrogeology) of the RoC Consulting Phase 2 Site Investigation report.

4.2 Hydrology

A summary of the hydrology within the site area is presented in **Table 5**.

Table 5: Summary of hydrology in site area

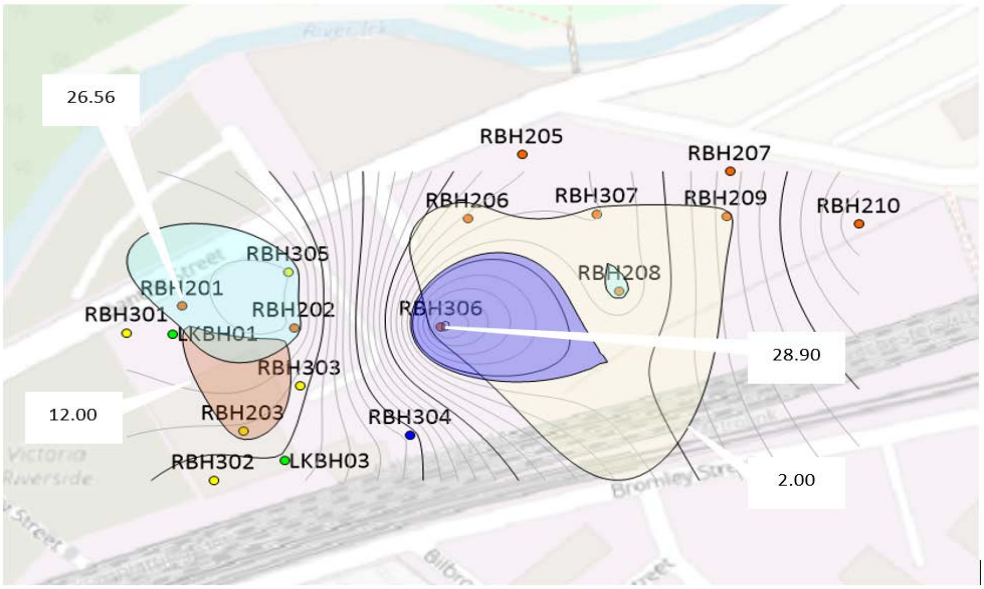
Condition	Description
Surface watercourses/ features	The nearest surface water feature is indicated 21.00 m to the north in the form of the River Irk. Water quality of this receptor indicates a GQA Grade of “E” (Poor) and a flow rate of less than 2.5 cumecs. The riverbed level is approximately at 26.30 mAOD and the surface water level at 26.90 mAOD in proximity of the site (as confirmed by RoC Consulting who have completed site level and earthworks appraisals).

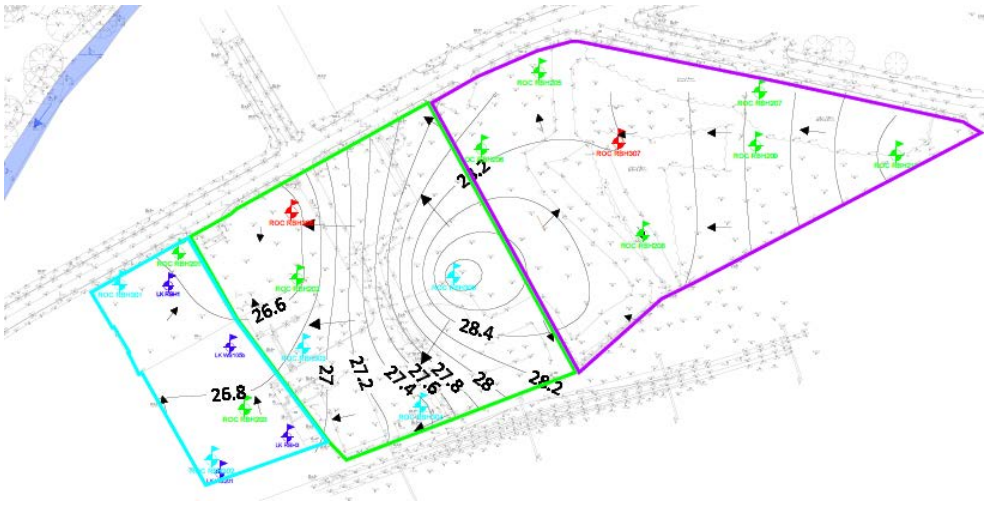
Condition	Description
Surface water abstractions	There are no active surface water abstractions at the site or within 500 m of the site boundary. The nearest active discharge consent is indicated 73.00 m to the northwest and held by United Utilities for the release of storm sewage overflow into the River Irk.
Site drainage	Surface drainage from the site appears to discharge into a local network to an outfall point into the existing adopted sewer network. Any areas of open ground or broken hard standing across the site (or damaged drainage runs) allow surface water to infiltrate into underlying soils and likely provide inputs into the underlying groundwater table, although quantification of these inputs is not possible at time. That being said, as the majority of the Plot NT02 site comprises either building or hardstand cover it is unlikely such flows provide a significant component to groundwater flows.
Preliminary flood risk assessment	The indicative floodplain map for the area, shows that the site lies within the designated floodplain of the River Irk, with a long-term flood risk classified as 'medium', according to latest info on gov.uk website. Medium risk means that this area has a chance of flooding of between 1% and 3.3% each year. This takes into account the effect of any flood defences in the area. These defences reduce but do not completely stop the chance of flooding as they can be overtopped, or fail A flood risk assessment (FRA) is outside the scope of this report.

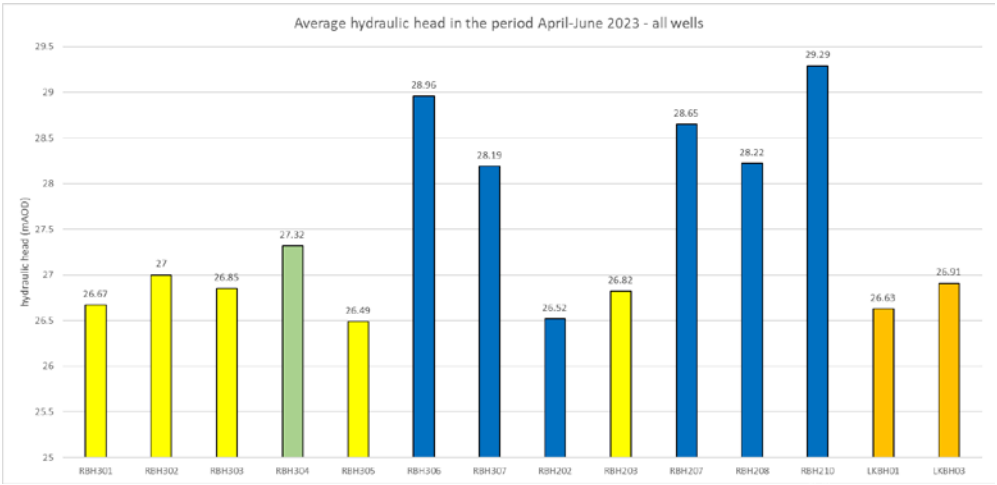
4.3 Hydrogeology

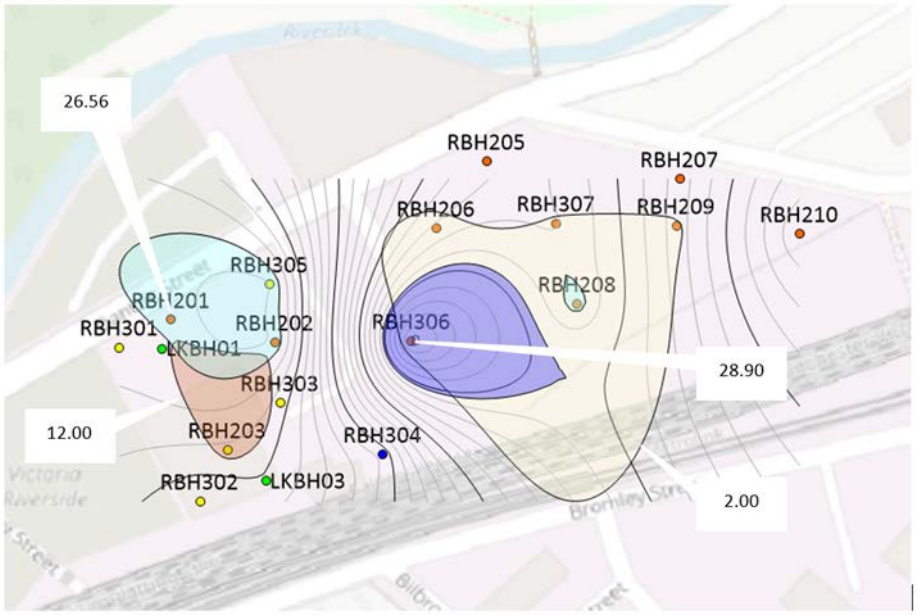
Hydrogeology is summarised for Plots NT03 and NT04 in addition to NT02 to provide information about the wider hydrogeological setting in **Table 6** overleaf.

Table 6: Summary of hydrogeological setting

Condition	Description
Aquifer characteristics	The central-western part of the wider site (approximately PlotsNT02 and 03 is underlain by a principal aquifer relating to the Chester sandstone Formation (CHES). The eastern part of the wider site (approximately PlotNT04 is underlain by a secondary aquifer relating to the Manchester Marls Formation (MM). Given the variability in the bedrock geology encountered beneath the site groundwater movement (vertical and lateral) via fracture flow and pore flow may be active processes beneath the site. However, it is likely that the majority of the groundwater flow is occurring in the upper weathered portion of the bedrock. The thickness of the weathered CHES is between approximately 2.60 m and 12.70 m, the thicker part is located mostly within PlotNT02 and extending into PlotNT03, among holes RBH201, RBH202 and RBH203, see **Image 1** (Weathered Chester formation thickness map) below; **Image 1: Weathered Chester formation thickness (levels shown are in mAOD)**  The thickness of the weathered MM is between approximately 2.00 m and 7.50 m, the thinner part is located within PlotNT04 and extending in PlotNT03, delimited by holes RBH209, RBH307 and RBH208. Globally, including both Formations, the thickness weathered bedrock illustrated in the map below shows a peak (i.e., thicker weathered bedrock area) mostly within PlotNT02, and a (much larger) depression (i.e., thinner weathered bedrock area) mostly within PlotNT04, extending off-site to the south up to Bromley street, see Image 1 (Weathered Chester formation thickness map) below. This structural setting of the bedrock has implications on the groundwater flow, described in the following section of this table.

Condition	Description
Depth to groundwater and flow	The description of the groundwater levels in the water bearing Formations (bedrock and superficial) and the flow field in the bedrock aquifers is included in ROC (June 2023) and summarised below. The groundwater level monitoring carried out in the period September 2022 to June 2023 generally indicates the following: The hydraulic head of the only well screened in the River Deposits (RD) (RBH304) located in the centre south of site ranges from 27.25 (April 2023) to 27.43 mAOD (June 2023). Resting groundwater in the June 2023 monitoring round was recorded at depths of 4.78 to 13.78 m bgl. The hydraulic head of the wells screened both in the Chester Formation (CHES) and the MM (only two holes have screens in both Formations, LKBH01 and LKBH03) ranges from 26.63 mAOD (LKBH01 nearby the river in the northwest of site, in June 2023) to 27.13 mAOD (LKBH03 in the southwest of the site, in January 2023). The hydraulic head of the wells screened in the Chester Formation ranges from 26.44 mAOD (RBH305 nearby the river in the centre-north of site, in June 2023) to 27.06 mAOD (RBH302 in the southwest of the site, in April 2023). The hydraulic head of the wells screened in the MM Formation ranges from 25.78 mAOD (RBH205 nearby the river in the NE of site, in September 2022) to 29.74 mAOD (RBH306 in the centre of the site, in April 2023). For the purpose on this DQRA, the representative hydraulic head map (**Image 2** Groundwater contours map) is the one obtained with the April-June 2023 data, with the June monitoring being the only monitoring round carried out on all monitoring wells on site, both those installed in the 1st and 2nd phases of GIs, see also **Chart 1** Average hydraulic head below. This map (taken from ROC drawing n. 4328-ROC-ZZ-XX-DR-ES-ES205a Rev.01) is shown below, and, together with the whole monitoring dataset, indicates the following: **Image 2: Groundwater contours** 

Condition	Description
	Chart 1: Average hydraulic head  The chart above shows the hydraulic head in all the monitoring wells. The heads monitored in the RBH3XX holes show a more pronounced difference in piezometry between the CHES (yellow in chart) and MM (blue in chart) aquifers, with the CHES heads ranging from 26.49 to 27.00 mAOD and the MM heads ranging from 28.19 to 29.29 mAOD. In this respect, the LK wells (orange in the chart) more closely represent the CHES piezometry, with LKBH01 possibly also in connectivity with the river, whilst RBH304 screened in the RD and the most uphill of all wells, has a piezometry which is intermediate between the MM and the CHES. This piezometric distribution implies the existence of two laterally connected aquifers with different hydraulic conductivities and hydraulic heads, this fact is reflected by the ground profile beneath the site. In the eastern area of the site (Plot NT04 and NT03), between wells RBH201 (east) and RBH306 (west), the bedrock consists of the MM aquifer, which has hydraulic heads between approximately 29.00 mAOD and 28.00 mAOD. In the western area of the site (Plot NT02), to the west of well LKBH03, the bedrock consists of the CHES aquifer, which has hydraulic heads between approximately 26.50 mAOD and 27.00 mAOD. Between these two areas, based on the ground profile, the CHES Formation (with a higher conductivity) is thinning abruptly, up to the contact with the MM aquifer (with a lower conductivity). This is reflected in the above-mentioned differences in hydraulic heads. Also, the Till acting as a confining layer across the whole site, but thicker in the east, and the presence of a fault underneath the site (which position is undetermined and not proven by the GIs) likely acting as a hydraulic barrier corroborate this evidence. The groundwater flow is generally directed from east to west towards the River Irk, in hydraulic contact with both aquifers in their respective area of existence; the river is a gaining river. The area between the above piezometric anomalies shows an abrupt increase in the groundwater contour spacing, and associated increase in the hydraulic gradient, which is thought to be the effect of the contact between the two aquifers with different hydraulic conductivities, and possibly of the fault zone with low permeability.

Condition	Description
	The piezometric distribution shows monitoring anomalies at RBH306 (high point) and in the RBH202 / RBH305 area (low point). Whilst further monitoring will be needed to refine the groundwater flow field in these zones, the groundwater levels can be correlated with the thickness of the weathered bedrock (described above), highlighting the following (as illustrated in **Image 3**: Groundwater contours and anomalies. **Image 3: Groundwater contours and anomalies (levels in mAOD)**  • The area with highest heads located in PlotNT03/04 (dark blue) is roughly located in the area of thinner bedrock (light brown). • The area with lower heads located on PlotNT02 (light blue) is roughly located in the area of thickest bedrock (dark brown). The piezometry in the Plot NT02 area is controlled by the low hydraulic head points at RBH202 and RBH305; however, the western part of the plot is less affected by this feature and is considered to be representative of the general NNW groundwater flow direction towards the River Irk.
Rising groundwater levels	Not applicable
Historical implications for hydrogeology	Not applicable
Licensed groundwater abstractions	The site is not located within close proximity to any sensitive groundwater abstraction points (e.g., for a potable water supply well). The nearest water abstraction point is indicated 533m to the west relating to Joseph Hold Ltd. Water is abstracted from groundwater for use in breweries/wine process water, it is not clear if the permit is still valid (ROC 2023 Phase 2 SI Report).
Source protection zones	The site does not lie within a currently designated groundwater Source Protection Zone (SPZ), (ROC GIR 2023).

4.3.1 Hydraulic conductivity

Hydraulic conductivity tests were carried out on the CHES formation at the site in boreholes BH203 and BH301 in April 2023. The resulting tests were analysed using AQTESOLV. The graphical analysis outputs are given in **Appendix B** and the results are summarised in **Table 7.**

The tests indicate hydraulic conductivities for these deposits ranging between 19.70 m/day and 286.50 m/day, which falls above the literature range for sandstone in the Consim database of 2.59E-05 and 5.18E-01 m/day but within the Consim range for a coarse sand of 7.78E-02 to 5.18E+02 which likely represents the weathered sandstone.

Table 7: Summary of hydraulic conductivity test analysis at Plot NT02 for the CHES formation

Monitoring well location/lithology screened	Response zone (m bgl)	Hydraulic conductivity (m/d)
BH203 Very weak reddish brown fine grained SANDSTONE	10 to 15	286.50
BH301 Fine to medium grained SANDSTONE (no description of weathering given on log)	4 to 10	19.70

A value of 1.025 m/day has been selected for modelling based on the geometric mean of the higher of the two conductivity values measured on site (286.50 m/day) and the geometric mean of the literature value for sandstone (0.3663 m/day) in order to represent groundwater flow within the weathered sandstone and underlying competent bedrock.

It is noted that TCE the main contaminant of concern is a DNAPL and as such will migrate vertically to the deeper bedrock deposits, namely the underlying lower permeability Manchester Marl deposits and thus the use of a hydraulic conductivity values only representing the sandstone may be overly conservative. The effect of reducing the hydraulic conductivity to represent groundwater flow within the MM will be assessed as part of the sensitivity analysis.

4.3.2 Hydraulic gradient and infiltration

4.3.2.1 Hydraulic gradient

The hydraulic gradient for Plot NT02 is calculated as 0.004 from the average hydraulic head in the period April-June 2023 at boreholes LKBH03 (26.91 mAOD) and borehole LKBH01 (26.63mAOD) over a distance of 67.00 m.

The piezometry in the Plot NT02 area is controlled by the low hydraulic head points at RBH202 and RBH205; however, the western part of the plot is less affected by this feature and is considered to be representative of the general NNW groundwater flow direction towards the River Irk.

4.3.2.2 *Infiltration*

An infiltration rate of 173mm/year for the site is presented in Section 5.3 of the RoC Phase 2 report, based on data for the climate period 1991-2000, the annual rainfall at the Woodford station is estimated 864.40mm/year, The UK average evapo-transpiration losses are typically 40%. Approximately 95% of the site is anticipated to be hardstanding and / or covered by buildings, thus increasing runoff; conservatively the overall infiltration (aquifer recharge) has been estimated to be approximately 20% of the total rainfall (~173 mm/year).

4.3.3 Aquifer conditions and biodegradation

Groundwater quality parameters were measured in-situ during the groundwater sampling. A summary of results is presented in **Table 8**.

Table 8: In-situ groundwater quality results

Monitoring well location	Dissolved oxygen (DO) (mg/l)	Indicative Aquifer Conditions (based on DO)	Redox (mV)	Indicative Aquifer Conditions (based on Redox)	Electrical Conductivity (µS/cm)
Date					
TCE plume core shallow sandstone/ unconfined by marl					
RBH303 10/05/2023	2.73	Aerobic	419.4	Aerobic	731.9
RBH203 10/05/2023	0.95	Mildly anaerobic	392.0	Aerobic	905.3
RBH203 27/09/2022	1.32	Aerobic	602.9	Aerobic	1109.9
LKBH03 10/05/2023	4.86	Aerobic	397.6	Aerobic	838.1
RBH302 10/05/2023	4.34	Aerobic	385.4	Aerobic	891.71
TCE plume fringes shallow sandstone					
LKBH01 27/09/2022	0.13	Mildly anaerobic	602.1	Aerobic	1620.8
RBH301 10/05/2023	0.31	Mildly anaerobic	141.5	Mildly anaerobic	1582.4
RBH305 11/05/2023	1.94	Aerobic	395.6	Aerobic	1245.3
Deeper sandstone and marl					
RBH201 27/09/2022	0.51	Mildly anaerobic	602.1	Aerobic	1699.9
RBH202 27/09/2022	0.44	Mildly anaerobic	602.94	Aerobic	2150.3

Based upon in-situ field measurements of DO and REDOX potential measurements, aquifer conditions are considered to be generally aerobic within the TCE plume and mildly anaerobic to aerobic outside of the plume.

4.4 Potential controlled waters pollutant linkages

4.4.1 Sources

The main contaminants of concern identified at the site are TCE detected as a diffuse source within the unsaturated soils in the south of the site within the footprint of the historic bolt works and TCE, its daughter products, cis and trans-1,2-dichloroethene (DCE) and vinyl chloride (VC) and carbon tetrachloride present as a dissolved phase plume within the underlying Chester Formation.

TCE follows the anaerobic degradation sequence below:



The presence of TCE daughter compounds DCE and vinyl chloride detected in the shallow sandstone at LK BH01 and RBH301 in the north of the site are consistent with the down gradient portion of the TCE plume undergoing some degree of anaerobic degradation and supports the proposed groundwater flow direction towards the north-northwest in this area of the site as shown on groundwater contours discussed in **Section 4.3**.

However, the TCE detections as presented on Drawing 4328-ROC-ZZ-XX-DR-ES-ES109 in Appendix A of the RoC Phase 2 report indicate that there may be some degree of migration of TCE impacted groundwater in the south of Plot NT02 towards the northeast as evidenced by TCE detections in the shallow sandstone at RBH303 (up to 277µg/l) and RBH305 (up to 3µg/l) close to the northern boundary of Plot NT03, and in the deeper sandstone and marl at RBH202 (up to 4µg/l) located between RBH303 and RBH305. Although it is noted that the extent of the TCE soil source to the east is currently uncertain, and the TCE in groundwater at RBH303 and RBH202 may be due to groundwater flow from the eastern end of the soil source that may extend into Plot NT03.

4.4.2 Controlled water pathways

The following have been identified as plausible potential pollutant pathways in relation to sensitive controlled waters:

- migration of leachable contaminants from impacted soils present in the unsaturated zone
- vertical and lateral migration of dissolved phase contaminants within the CHES and MM aquifers.

4.4.3 Controlled water receptors

The nearest down gradient surface water receptor is the River Irk located approximately 21.00 m to the north of the site and is reported to be of low water quality (Grade E). Due to the already poor surface water quality reported in the River Irk due to the long industrial past of the wider surrounding area, the river is considered to be of low sensitivity from the site.

The most sensitive controlled water receptor is considered to be groundwater within the Chester Sandstone Formation (principal aquifer) and the Manchester Marl Formation (secondary aquifer).

4.4.4 Potential linkages

The potentially complete controlled waters pollutant linkages identified in relation to the site are:

- vertical migration of leachable contaminants from impacted soils present in the unsaturated zone to the underlying CHES and MM aquifers.
- vertical and lateral migration of dissolved phase contaminants through the CHES aquifer to identified controlled water receptors including the wider CHES and MM aquifers.

5 QUANTITATIVE MODELLING

5.1 Assessment methodology and model parametrisation

The DQRA for controlled waters has been undertaken in line with the EA publication titled 'Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination' (RTM).

RTM considers two pathways, predominantly:

- leaching of COPC from impacted soil to groundwater beneath the site and the subsequent migration in groundwater to specified distances from the impacted soil;
- migration of dissolved phase COPC in groundwater to specified distances from the groundwater source.

With respect to the leaching pathway, there are three levels of assessment termed Levels 1 to 3. Although more site-specific data is needed with each increase in level, the modelling results typically become less conservative as additional processes are considered. Level 1 uses partitioning equations to theoretically predict how much of a constituent could pass from the solid to liquid phase. This theoretical concentration is then compared to a screening value, termed the target concentration. Alternatively, the results of leachate test data and perched water can be compared directly to the target concentration. Level 2 considers the dilution of this liquid with groundwater flowing beneath a site and Level 3 predicts concentrations at specified distances when the processes of attenuation are considered.

With respect to the dissolved phase migration pathway, there are two levels of assessment termed Levels 2 and 3. Level 2 is the comparison of the groundwater data with the target concentration, which is undertaken as part of a Generic Quantitative Risk Assessment (GQRA). Level 3 predicts concentrations at specific distances when the processes of attenuation are considered in the same manner as the leaching pathway.

A Level 3 groundwater dissolved phase and soil leaching assessment has been undertaken and is documented in this report.

5.2 Model selection

The EA's RTM excel based spreadsheet tool software package was used to model the controlled water linkages. The RTM model is well established and considered by RSK to be appropriate for this site for the following reasons:

- the site conceptual model is consistent with the assumptions of the RTM model (including intergranular flow);
- the RTM model considers a single source area;
- the RTM model allows the prediction of breakthrough concentrations as well as calculating suitably protective site-specific acceptance criteria (SSAC).

5.3 Sources

5.3.1 Modelled source area

Trichloroethene has been identified as the primary contaminant of concern at the site, detected as both a diffuse source within unsaturated soils in the south of the site and present with its daughter products, cis and trans-1,2-dichloroethene and vinyl chloride and carbon tetrachloride present as a dissolved phase plume within the underlying Chester Formation. In accordance with the identified potential sources of soil and groundwater contamination, RSK have selected the following as representative source areas for modelling purposes:

- soil source: 38.00 m wide by 25.00 m length source area covering the southern area of the site within the footprint of the historic boltworks;
- groundwater source: 38.00 m wide by 25.00 m length source area representing the plume core underlying the TCE soil source.

It is noted that cis and trans-1,2-dichloroethene and vinyl chloride were detected further down gradient than the TCE plume core at LKBH01 and RBH301 in the north of the site, however, since it is considered that these contaminants originate from the TCE plume, for the purposes of the DQRA they are considered as a single groundwater source area alongside TCE.

Cis and trans-1,2-dichloroethene and vinyl chloride were not detected in soils and therefore will be included within modelling of the groundwater source only.

5.4 Selection of compliance point

TCE is designated as a hazardous substance with respect to groundwater receptors.

As per the EA's guidance (Land contamination ground compliance points: quantitative risk assessment' (EA, 2017b), entry of hazardous or non-hazardous substances into groundwater should be prevented to avoid pollution of groundwater and deterioration of the status of groundwater bodies, and to prevent sustained and upwards trends in concentrations of the substance in a groundwater body.

However, since COPC have already entered groundwater the EA guidance indicates that further entry should be minimised, and necessary and reasonable measures taken to limit the impact on the status of the groundwater body from future expansion of any plumes.

With reference to the EA guidance on 'Land contamination ground compliance points: quantitative risk assessment' (EA, 2017b), for hazardous substances where the substance has already entered groundwater, the default distance of 50.00 m from the boundary of the source can be selected as a compliance distance. For a strategically important aquifer, a case for extending the compliance point beyond the 50.00 m default distance may also be made based on consideration of

- Sensitivity of the environment.
- Impact of any pollution
- Likely costs and benefits of preventing plume expansion, including sustainability of remedial actions.

In accordance with the current guidance and the site being underlain by a principal aquifer a compliance point of 50.00 m has been adopted.

5.5 Source and target concentrations

The site is underlain by a principal aquifer resting within the Chester Formation deposits. The nearest down gradient surface water receptor is the River Irk located approximately 21 m to the north of the site and is reported to be of low water quality (Grade E). The principal aquifer is considered to be the primary controlled waters receptor associated with the site and therefore drinking water standards (DWS) (where available) have been used as for target concentrations as presented in **Appendix C**.

The maximum concentrations associated with the historic unsaturated soil data collected from the site and maximum dissolved phase COPC concentrations in groundwater from the five groundwater monitoring events have been used to conservatively represent the source areas. The selected input concentrations and target concentrations for each contaminant are presented in **Table 9.**

Table 9: Summary of soil maximum unsaturated soil and groundwater concentrations used for DQRA

COPC	Concentrations		Target concentration (mg/l)
	Maximum concentration	Location and date	
Soil			
Trichloroethene (TCE)	1.13 mg/kg	WS308 1.0m bgl 03/04/2023	0.01
Carbon tetrachloride	0.038 mg/kg	WS308 1.0m bgl 03/04/2023	0.003
Groundwater			
Trichloroethene (TCE)	0.572 mg/l	RBH203 04/10/2022	0.01
Carbon tetrachloride	0.265 mg/l	RBH203 19/01/2023	0.003
cis and trans-1,2-dichloroethene	0.602 mg/l**	LK BH01 19/01/2023	0.05
vinyl chloride	0.016 mg/l	LK BH01 27/09/2022	0.0005
*cis and trans 1,2-dichloroethene results combined in line with the DWS			

5.6 Selection/calculation of degradation rates

Although the presence of DCE and vinyl chloride at down gradient boreholes in the north of the site indicate that some degree of anaerobic dichlorination of TCE is occurring within the groundwater plume, from the groundwater monitoring records discussed in **Section 4.3.3**, conditions within the plume core appear to be predominantly aerobic, resulting in slower biodegradation rates for chlorinated solvents when compared to anaerobic conditions. Therefore, the more conservative literature aerobic degradation or in the case of chlorinated

solvents the “high” rates for dissolved phase degradation have been adopted from the Handbook of Environmental Degradation Rate by Howard *et. al.* (1991).

The effect of degradation rates on the model results will be investigated further in sensitivity analysis in **Section 5.9**.

5.7 Model input parameters

Input parameters for the controlled waters DQRA along with justification for each input parameter are included within **Appendix D**. Site specific data (where available) has been used to populate the DQRA model. Where relevant site-specific data is not available, appropriate literature sourced data has been used. The model input parameters are also presented within **Appendix E,** along with the model input and output sheets.

5.8 Model results

The results of the controlled waters DQRA model run are summarised in **Table 10.**

Table 10: DQRA results summary

COPC	Target concentration (mg/l)	Predicted concentration (mg/l)	Estimated travel time to compliance point (yrs)
		50.00 m compliance point	
Soil leaching assessment			
Trichloroethene (TCE)	0.01	**0.0173**	52
Carbon tetrachloride	0.003	1.28E-05	81
Dissolved phase assessment			
Trichloroethene (TCE)	0.01	**0.105**	52
Carbon tetrachloride	0.003	5.14E-04	81
cis and trans-1,2-dichloroethene	0.05	**0.219**	23
vinyl chloride	0.0005	4.64E-04	17
Notes: **Bold text** indicates where the predicted breakthrough concentration at the 50 m compliance point is in excess of the target concentration			

Soil source

Modelling of the soil source in the south of the site indicates a marginal exceedance of the target concentration for TCE at the 50m compliance point with concentrations of carbon tetrachloride predicted to be 2 orders of magnitude below the target concentration. The

predicted concentrations of trichloroethene fall below the defined target concentration for soil leaching at a distance of 75.00 m (0.0097 mg/l).

Groundwater source

For the groundwater source based on maximum recorded groundwater concentrations, the predicted concentrations of trichloroethene and dichloroethane at the 50 m compliance point exceed their respective target concentrations by an order of magnitude. Vinyl chloride is predicted to be at a concentration marginally under the DWS and carbon tetrachloride is predicted to be below the DWS by an order of magnitude.

The predicted concentrations of trichloroethene and dichloroethene fall below the defined target concentration for the groundwater source at a distance of 125 m with concentrations of 0.00915 mg/l for TCE and 0.0467 mg/l for DCE.

5.9 Sensitivity analysis

Sensitivity analysis has been undertaken on trichloroethene in soil leaching and dissolved phase in order to qualify the validity of the DQRA assessment considering the inherent uncertainty related to some of the model input parameters.

The results of the sensitivity analysis are summarised in **Table 11** and **Table 12** (and presented in full in **Appendix F).** The assessment examines the model sensitivity to five key aquifer property parameters utilised in the groundwater assessment.

Table 11: Sensitivity analysis (soil leaching assessment)

Parameter	Value	Predicted concentration at 50.00 m compliance point (mg/l) – Dissolved phase assessment
Trichloroethene target concentration: 0.01 mg/l		
Hydraulic conductivity (m/day): Data range +/- one order of magnitude		
Original	1.0248	**0.0173**
+ one order of magnitude	10.248	**0.0106**
- one order of magnitude	0.10248	0.0004
Effective porosity (ad.): Data range +/- 20%		
Original	0.365	**0.0173**
+ 20%	0.438	**0.0140**
- 20 %	0.292	**0.0214**
Width of source (m): Data range +/- 20%		
Original	38	**0.0173**
+ 20%	45.6	**0.0173**
-20%	30.4	**0.0172**
Hydraulic gradient: Data range +/- 20%		
Original	0.004	**0.0173**

Parameter	Value	Predicted concentration at 50.00 m compliance point (mg/l) – Dissolved phase assessment
Trichloroethene target concentration: 0.01 mg/l		
+ 20%	0.0048	**0.0187**
-20%	0.0032	**0.0151**
Degradation rate: Data range aerobic/anaerobic		
Original - aerobic	1653 days	**0.0173**
anaerobic	321 days	0.0004
Notes: **1.23E-01 –** Predicted concentration at the 50 m compliance point predicted to be in excess of the target concentration.		

Table 12: Sensitivity analysis (dissolved phase assessment)

Parameter	Value	Predicted concentration at 50.00 m compliance point (mg/l) – Dissolved phase assessment
Trichloroethene target concentration: 0.01 mg/l		
Hydraulic conductivity (m/day): Data range +/- one order of magnitude		
Original	1.0248	**0.105**
+ one order of magnitude	10.248	**0.475**
-one order of magnitude	0.10248	0.00000758
Effective porosity (ad.): Data range +/- 20%		
Original	0.365	**0.105**
+ 20%	0.438	**0.0773**
- 20%	0.292	**0.144**
Source width (m): Data range +/- 20%		
Original	38	**0.105**
+20%	45.6	**0.105**
-20%	30.4	**0.104**
Hydraulic gradient: Data range +/- 20%		
Original	0.004	**0.105**
+20%	0.0048	**0.136**
-20%	0.0032	**0.0717**
Degradation rate: Data range aerobic/anaerobic		
Original - aerobic	1653 days	**0.105**
anaerobic	321 days	0.0006

Parameter	Value	Predicted concentration at 50.00 m compliance point (mg/l) – Dissolved phase assessment
Trichloroethene target concentration: 0.01 mg/l		
Notes: **1.23E-01 –** Predicted concentration at the 50.00 m compliance point predicted to be in excess of the target concentration.		

5.9.1 Sensitivity analysis results

Hydraulic conductivity

Based on the results of the sensitivity analysis, it appears that both models are highly sensitive to hydraulic conductivity, with the highest sensitivity reported for the dissolved phase model.

For hydraulic conductivity in the soil leachate assessment, an increase in hydraulic conductivity by an order of magnitude, results in a slight reduction in trichloroethene concentration, however it is of the same order of magnitude. A decrease of hydraulic conductivity by an order of magnitude indicates a decrease in trichloroethene concentrations by 2 orders of magnitude.

For hydraulic conductivity in the dissolved phase assessment, an increase in hydraulic conductivity by an order of magnitude, results in an increase in trichloroethene concentrations but of the same order of magnitude. A decrease in hydraulic conductivity by an order of magnitude results in a decrease in trichloroethene concentrations by several orders of magnitude.

The hydraulic conductivity value used it the RTM assessment model has been derived from the geometric mean of the range of Consim literature values for a sandstone bedrock and the upper value obtained from field tests. It is noted that the limited hydraulic conductivity testing undertaken on site to date provides a single data set from only two monitoring wells RBH203 and RBH301 both installed within the upper sandstone bedrock layer.

Further testing to provide more site-specific hydraulic conductivity values would be recommended in order to derive a more accurate site-specific value. Furthermore, testing within boreholes installed within the Manchester Marl bedrock would be advised, as currently the model may be conservative.

Effective porosity

The soil leaching model showed limited sensitivity to the effective porosity value with an increase in effective porosity of 20% resulting in a ~19% decrease in predicted TCE concentration and a decrease in effective porosity of 20% resulting in a ~23% increase in predicted TCE concentration.

The dissolved phase model showed a higher sensitivity to the effective porosity value with an increase in effective porosity of 20% resulting in a ~26% decrease in predicted TCE concentration and a decrease in effective porosity of 20% resulting in a ~37% increase in predicted TCE concentration.

The modelled parameter value for effective porosity was taken as average of the geometric mean for literature value for sandstone and coarse sand consistent with the description of the

shallow sandstone aquifer where peak TCE concentrations were detected, and the hydraulic conductivity values used within the model. If future conductivity testing reports lower values due to the presence of marl it may be necessary to adjust the effective porosity accordingly.

Source width

Source width was included in the sensitivity analysis due to the uncertainty around the extent of the soil source potentially extending to the east into the southwestern corner of Plot NT03. However, the analysis shows that this is not a sensitive input parameter within the model, with only marginal (<1%) changes in predicted TCE concentrations at the 50m compliance point with changed in source width of +/- 20%.

Hydraulic gradient

The soil leaching model showed limited sensitivity to the hydraulic gradient value with an increase of 20% resulting in a ~8% increase in predicted TCE concentration and a decrease in hydraulic gradient of 20% resulting in a ~13% decrease in predicted TCE concentration.

The dissolved phase model showed a higher sensitivity to the hydraulic gradient value with an increase of 20% resulting in a ~30% increase in predicted TCE concentration and a decrease in hydraulic gradient of 20% resulting in a ~32% decrease in predicted TCE concentration.

The hydraulic gradient value used within the model was based on a single set of groundwater monitoring from June 2023. As discussed in **Section 4.3** this was the only available data set that included monitoring wells from both phases of SI. Further rounds of groundwater monitoring are recommended in order to provide more confidence in the hydraulic gradient used within the model, taking into account seasonal and weather variations.

Degradation rates

Sensitivity analysis shows that both the soil leaching, and dissolved phase models are highly sensitive to biodegradation rates. Changing the degradation rate from the literature value for aerobic (1653 days) to anaerobic degradation (321 days) results in a decrease in predicted concentration at the 50m compliance point by two orders of magnitude for the soil leaching model and by three orders of magnitude for the dissolved phase model. In both cases, predicted concentrations are below the target concentration at a distance of 50m.

In-situ groundwater quality parameters recorded during monitoring indicate that conditions within the TCE plume core are predominantly aerobic, with mildly anaerobic to aerobic conditions recorded outside and at the plume margins. However, the presence of DCE and VC recorded in groundwater in the north of the site, down gradient of the TCE plume core, indicates that some degree of anaerobic degradation may be occurring.

Conclusions

Sensitivity analysis has shown that the model is particularly sensitive to hydraulic conductivity and hydraulic gradient. Due to the limited site-specific data currently available, it is recommended that further rounds of groundwater monitoring and conductivity testing are undertaken in order to provide more robust site specific values.

The model is shown to have low sensitivity to the source dimensions, therefore whilst it is important to understand the full extent of the source area for remediation design, further delineation of the soil TCE source is unlikely to significantly affect modelled concentrations and/or modelled remedial target values.

5.9.2 Consideration of climate change effects

There is the potential for groundwater levels beneath the site to rise or fall to a greater extent than observed to date as a result of climate change. The rise or fall of groundwater levels in the future is not considered likely to have an effect on the controlled waters risk assessment based on the following:

- COPC have already leached from the unsaturated zone into the underlying aquifer, hence a Level 3 groundwater assessment has been conducted. None of the model input parameters associated with a Level 3 groundwater assessment are influenced by groundwater level changes

In accordance with the above, no additional sensitivity analysis has been undertaken in relation to climate change effects.

5.9.3 Model calibration

In order to calibrate the model, measured concentrations of COPC in groundwater sampled from down gradient well LKBH01 of 0.002mg/l on 19/01/2023 were compared to the model's predicted concentration, based on a compliance point distance of 50 m (approximate distance between RBH203 and LKBH01), and an initial source concentration of 0.418 mg/l (measured concentration in groundwater from RBH203 on 19/01/2023, considered to be representative of the dissolved phase source).

The calibration modelling exercise is included in **Appendix G** and summarised in **Table 13.**

Table 13: Predicted concentrations at LKBH01

COPC	Concentration at RBH203 (mg/l)	Concentration at RBH203 (mg/l)	Predeicted concentration at 50m compliance point (distance from RBH203 to LKBH01)	Travel time (years)
Trichloroethene (TCE)	0.418	0.002	0.0767	52

The modelled results at LKBH01 are an order of magnitude higher than those recorded in groundwater, indicating that the model may be over predicting down gradient concentrations, likely due to the observed degradation to DCE and VC. As discussed in the sensitivity analysis, the most sensitive model parameters are the hydraulic conductivity, hydraulic gradient and the degradation rates and further groundwater monitoring and conductivity testing is recommended to provide more robust site-specific values for modelling. It is considered that there is not sufficient certainty in these model parameters to reliably calculate site specific degradation rates at this time, however, the model calibration check above indicates that there is currently a high degree of conservatism in the model.

5.10 Remedial target values (RTV)

Whilst it is noted some uncertainties remain at present regarding the characterisation of the sites hydrogeological condition, specifically relating to hydraulic connectivity assumptions and groundwater flow gradients; the following “Preliminary” remedial target values (RTV) have been derived to inform remediation of the site. It should be noted that, owing to the assumptions made in the modelling process regarding the above concerns, the values provided in Table 14will be more conservative and will require further refinement at such time when the current program of site monitoring works has concluded. It is then envisaged this report and modelling assessment will be updated to reflect this more comprehensive dataset.

The remedial targets presented in **Table 14** have been compared to the soil and groundwater results in **Appendix H**. The selected soil and groundwater RTV are the level 2 soil remedial targets and level 3 groundwater targets respectively.

Table 14: Soil and groundwater RTV for controlled waters

COPC	Soil RTV (mg/kg)	Locations of soil RTV exceedances and max concentration (mg/kg)	Groundwater RTV (mg/l)	Locations of groundwater RTV exceedances and max concentration (mg/l)
Trichloroethene (TCE)	0.210	WS305 1.0m bgl (0.427) WS308 0.6 & 1.0m bgl (max 1.13)	0.0545	LKBH03 (max 0.250), RBH203 (max 0.572), RBH303 (max 0.277)
Carbon tetrachloride	0.108	NR	1.55	NR
cis and trans-1,2-dichloroethene	NA	NA	0.138	LKBH01 (max 0.602)
vinyl chloride	NA	NA	0.0172	NR
NR – no RTV exceedances recorded NA – DCE and VC not included in the leaching pathway model				

Screening of the soil and groundwater results against the proposed RTV results in exceedances for TCE in soil at WS305 and WS308 in the south of Plot NT02 and three exceedances at for groundwater at LKBH03, RBH203 and RBH303 located in the south of Plot NT02 and approximately 5m beyond the eastern site boundary within Plot NT03. An exceedance of the is also reported in groundwater for DCE at LKBH01 in the north of the site.

5.11 Uncertainty

Remaining uncertainties and data gaps in the refined conceptual site model have been identified in **Table 15** overleaf along with the key implications.

Table 15: Uncertainties and implications

Item	Details	Implications
Groundwater monitoring data	Only one full round of groundwater monitoring of boreholes from both phases of RoC SI undertaken to date (June 2023).	Hydraulic gradient used within the model is based on a single dataset and thus does not account for seasonal variation. The model has been found to be particularly sensitive to the hydraulic gradient. Further monitoring wors should be completed to allow a more robust determination of hydrogeological conditions
Hydraulic conductivity	Hydraulic conductivity values measured in only two boreholes installed within the bedrock – both installed within the shallow Chester sandstone formation. No testing has been undertaken on wells installed within the marl or deeper sandstone	Due to the limited availability of site specific data, there is some uncertainty in the value used within the model. The model is shown to be highly sensitive to hydraulic conductivity. As with groundwater level monitoring, hydraulic connectivity testing should be completed within the Manchester Marls bedrock to allow the use of site-specific values within the RTM model
Areas of the site with limited investigation	Access constraints due to current site usage have resulted in limited site investigation in some areas	The extent of the TCE soil source is currently uncertain and groundwater results indicate that it may extend beyond the eastern boundary of Plot NT02 into Plot NT03. This would be consistent with the footprint of the historic bolt works (possible historic source of TCE) which extends into the southwestern corner of Plot NT03 as shown on RoC figure 4328-ROC-ZZ-XX-DR-ES-ES208. However, sensitivity analysis showed minimal sensitivity to source dimensions.

5.12 Discussion

- Modelling indicates that the TCE detected in unsaturated soils and the existing TCE dissolved phase plume, and its daughter products pose a potential risk to the wider principal aquifer.
- Sensitivity analysis indicates that the model is particularly sensitive to hydraulic conductivity, hydraulic gradient and degradation rates for which there is currently limited site-specific data available, and it is recommended that additional monitoring works are undertaken to address these uncertainties. However, it is noted that model calibration

against TCE concentrations detected at down gradient borehole LKBH01 indicates that the current model setup is likely to be highly conservative.

- Groundwater samples from monitoring wells close to the down gradient boundary, report low concentrations of TCE in the sandstone aquifer below drinking water standards indicating that in the site's current layout with warehouse buildings covering the main source area, limiting ongoing leaching, TCE is unlikely to be significantly impacting the wider principal aquifer. However, TCE daughter products DCE and VC are reported to exceed the DWS in the north of the site close to the down gradient boundary and DCE concentrations are predicted to exceed the DWS at 50m.
- Whilst it is acknowledged that there is some degree of uncertainty in the current model inputs and predicted concentrations, since model calibration indicates that the model is highly conservative, it is considered that the proposed RTV are suitably protective of controlled waters receptors and will provide a significant degree of betterment at the site.
- Currently there are no recorded groundwater abstractions within 500m of the site and given the industrial history of the wider area surrounding the site, future drinking water abstraction in the area is unlikely.

6 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The results from the soil leaching and dissolved phase assessments indicate that predicted concentrations of TCE, DCE and carbon tetrachloride at a theoretical compliance point 50.00 m down gradient of the site exceed the target concentrations. Therefore, a pollutant linkage is considered to exist between the VOC soil source and dissolved phase plume extending beneath Plot NT02 and controlled waters via vertical migration through the unsaturated zone and/or lateral migration through dissolved phase to the wider principal aquifer. In accordance with this remediation shall be required at the site. Subject to agreement of the targets derived with the EA, the RTVs presented in this report should be used to inform remedial works at the site.

Following detailed review of the available information there remains some uncertainty associated with the refined conceptual site model. The key uncertainty identified is considered to relate to the complex hydrogeology underlying the site and specifically the aquifer model input parameters hydraulic conductivity and gradient and full extents of the TCE soil source area which may extend off-site to the east beneath adjacent Plot NT03.

Although some uncertainty remains, given the inherent conservatisms associated with the modelling and the results of the sensitivity analysis and model calibration, the conclusions drawn from this assessment are considered robust given current information available.

6.2 Recommendations

The following recommendations are made for further assessment to refine the DQRA/remediation of the site to address the risks identified above and to address remaining uncertainties:

- Copies of this report, along with the RoC Consulting Phase 2 Site Investigation should be provided to the regulatory authorities to review and provide comment. Any comments received from these regulators should be taken into account when completing any further model runs.
- On going groundwater monitoring of wells installed during all phases of ground investigations should be continued so that a more reflective indication of groundwater levels and flow gradients can be obtained
- Further hydraulic conductivity testing should be completed on wells installed into the Manchester Marls formation to allow the use of site-specific values within the RTM model
- The RTM model has indicated the values in groundwater for TCE contaminants are correspondingly higher than would be anticipated given evidence in soil, it is likely the most significantly impacted soils are yet to be identified. Given current access constraints at the time of site investigations, particularly associated with a live HP gas main on site and leisure operations in northern warehouse of Plot NT02, it may be prudent for the supplementary sampling of soils following vacant possession of the site and demolition to allow refinement of overall plume extents and associated remediation costs.

- This report and associated RTM model should be revisited and updated to reflect new permeability and groundwater level monitoring data obtained from site with a view to the refinement of some the assumptions currently made and allow more appropriate site specific RTV's to be derived for soils and groundwaters.
- Copies of this report, along with the wider RoC Consulting Phase 1 & 2 site investigations should be provided to remediation specialists to consider and advise comment.

BIBLIOGRAPHY

Brost, E. *et al.* (2000), *Non-aqueous phase liquid (NAPL) mobility limits in soil.* Soil and groundwater research bulletin No.9. American Petroleum Institute.

British Geological Survey (2015), www.bgs.ac.uk

British Standards Institution (2011), 'BS 10175:2011 + A2:2017. Investigation of potentially contaminated sites: Code of practice'.

British Standards Institution (2015), 'BS 5930:2015. Code of practice for ground investigations'.

Buscheck and Alcantar (1995), Regression techniques and analytical solutions to demonstrate intrinsic bioremediation.

CL:AIRE (2017), Petroleum hydrocarbons in groundwater, Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies (London: CL:AIRE).

Dangerous Substances Directive (76/464.EEC).

Department for Environment, Food and Rural Affairs (2010), *The River Basin Districts Typology, Standards and Groundwater Threshold Values (Water Framework Directive) (England and Wales) Directions 2010* (London: HMSO).

Department for Environment, Food and Rural Affairs (2019), *Magic map.* Available online at: https://magic.defra.gov.uk/MagicMap.aspx.

Domenico, P. A. and Schwartz, F. W. (1990), *Physical and Chemical Hydrogeology* (Wiley).

Environment Agency (2006), 'Remedial Targets Methodology: Hydrogeological Risk Assessment for Land Contamination'.

Environment Agency (2008b), *Water resources in England and Wales – Current state and future pressures.* Available online at: https://webarchive.nationalarchives.gov.uk/20140329213237/http://cdn.environment-agency.gov.uk/geho1208bpas-e-e.pdf.

Environment Agency (2010a), 'Horizontal Guidance Note H1 - Environmental risk assessment for permits'.

Environment Agency (2017a), *Collection: Groundwater protection.* Available online at: https://www.gov.uk/government/collections/groundwater-protection.

Environment Agency (2017b), *Land contamination groundwater compliance points: quantitative risk assessments.* Available online at: https://www.gov.uk/guidance/land-contamination-groundwater-compliance-points-quantitative-risk-assessments.

Environment Agency (2019a), *Water situation reports for England.* Available online at: https://www.gov.uk/government/collections/water-situation-reports-for-england.

Environment Agency (2019b), *Flood map for planning.* Available online at: https://flood-warning-information.service.gov.uk/long-term-flood-risk/map.

Environment Agency (2020), *Land contamination risk management*. Available online at: https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm, 8 October

2020. Environment Agency (no date), Freshwater environmental quality standards. (Chelsea: Lewis Publishers.)

Environment Agency www.environment-agency.gov.uk/.

Golder Associates (2016), *Toolkits for evaluation of monitored natural attenuation and natural source zone depletion.* Report No. 1417511-001-R-Rev0.

Golder Associates (2003), ConSim v2.5 – produced for the Environment Agency under the Agency's R&D programme. Software and user manual constitute Environment Agency R&D Publication 132, 2003.

Hazardous Waste Regulations 2005 (London: HMSO).

Howard *et al.* (1991), Handbook of environmental degradation rates.

Landmark Information Group (201x), 'Envirocheck report reference XXX, dated XXX.

National River Flow Archive (2014), Gauging station data, available online from http://nrfa.ceh.ac.uk/data.

Natural Environment Research Council (2014), *UK Hydrometric Register.* Available online at: http://nora.nerc.ac.uk/id/eprint/3093/1/HydrometricRegister_Final_WithCovers.pdf.

Part IIA of the Environmental Protection Act (Contaminated Land Regulations (England) 2002 (London: HMSO).

River Basin Management (2013), UK Technical Advisory Group on the Water Framework Directive, (2015-21).

Rudland, D. J., Lancefield, R. M. and Mayell, P. N. (2001), *CIRIA C552. Contaminated Land Risk Assessment: A Guide to Good Practice* (London: CIRIA).

Society of Brownfield Risk Assessment (2013), *Petroleum hydrocarbons workshop report.* Available online at: https://sobra.org.uk/resources/reports/.

The Surface Waters (Abstraction for Drinking Water) (Classification) Regulations 1996 (London: HMSO).

The Surface Waters (Dangerous Substances) (Classification) Regulations 1998 (London: HMSO).

The Water Supply (Water Quality) Regulations 2016 (London: HMSO).

United States Environmental Protection Agency (USEPA) (2019). *Regional Screening Levels (RSLs).* Available online at: https://www.epa.gov/risk/regional-screening-levels-rsls-generic-tables.

Water Framework Directive (2000/60/EC).

World Health Organization (2011), *Guidelines for drinking-water quality*, 4th edn (Geneva: WHO).

World Health Organization (2004), *Guidelines for drinking-water quality*, 3rd edn (Geneva: WHO).

Wiedemeier, T. & Rifai, H. (1999), *Natural attenuation of fuels and chlorinated solvents in the subsurface.* John Wiley and Sons Ltd.

APPENDIX A
SERVICE CONSTRAINTS

1. This report and the site investigation carried out in connection with the report (together the "Services") were compiled and carried out by RSK Environment Limited (RSK) for RoC Consulting Ltd (the "Client") in accordance with the terms of a contract [RSK Environment Standard Terms and Conditions] between RSK and the Client, dated 26 June 2023. The Services were performed by RSK with the reasonable skill and care ordinarily exercised by an environmental consultant at the time the Services were performed. Further, and in particular, the Services were performed by RSK taking into account the limits of the scope of works required by the client, the time scale involved and the resources, including financial and manpower resources, agreed between RSK and the Client.
2. Other than that, expressly contained in paragraph 1 above, RSK provides no other representation or warranty whether express or implied, in relation to the Services.
3. Unless otherwise agreed in writing, the Services were performed by RSK exclusively for the purposes of the Client. RSK is not aware of any interest of or reliance by any party other than the Client in or on the Services. Unless expressly provided in writing, RSK does not authorise, consent or condone any party other than the client relying upon the Services. Should this report or any part of this report, or otherwise details of the Services or any part of the Services be made known to any such party, and such party relies thereon that party does so wholly at its own and sole risk and RSK disclaims any liability to such parties. **Any such party would be well advised to seek independent advice from a competent environmental consultant and/or lawyer.**
4. It is RSK's understanding that this report is to be used for the purpose described in the introduction to the report. That purpose was a significant factor in determining the scope and level of the Services. Should the purpose for which the report is used, or the proposed use of the site change, this report may no longer be valid and any further use of or reliance upon the report in those circumstances by the client without RSK 's review and advice shall be at the client's sole and own risk. Should RSK be requested to review the report after the date of this report, RSK shall be entitled to additional payment at the then existing rates or such other terms as agreed between RSK and the client.
5. The passage 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 contained in this report should not be relied upon in the future without the written advice of RSK. In the absence of such written advice of RSK, reliance on the report in the future shall be at the Client's own and sole risk. Should RSK be requested to review the report in the future, RSK shall be entitled to additional payment at the then existing rate or such other terms as may be agreed between RSK and the client.
6. The observations and conclusions described in this report are based solely upon the Services which were provided pursuant to the agreement between the Client and RSK. RSK has not performed any observations, investigations, studies or testing not specifically set out or required by the contract between the client and RSK. RSK is not liable for the existence of any condition, the discovery of which would require performance of services not otherwise contained in the Services. For the avoidance of doubt, unless otherwise expressly referred to in the introduction to this report, RSK did not seek to evaluate the presence on or off the site of asbestos, invasive plants, electromagnetic fields, lead paint, heavy metals, radon gas or other radioactive or hazardous materials, unless specifically identified in the Services.
7. The Services are based upon RSK's observations of existing physical conditions at the Site gained from a visual inspection of the site together with RSK's interpretation of information, including documentation, obtained from third parties and from the Client on the history and usage of the site, unless specifically identified in the Services or accreditation system (such as UKAS ISO 17020:2012 clause 7.1.6):
    a. The Services were based on information and/or analysis provided by independent testing and information services or laboratories upon which RSK was reasonably entitled to rely.

b. The Services were limited by the accuracy of the information, including documentation, reviewed by RSK and the observations possible at the time of the visual inspection.

c. The Services did not attempt 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.

RSK is not liable for any inaccurate information or conclusions, the discovery of which inaccuracies required the doing of any act including the gathering of any information which was not reasonably available to RSK and including the doing of any independent investigation of the information provided to RSK save as otherwise provided in the terms of the contract between the Client and RSK.

8. The intrusive environmental site investigation aspects of the Services are a limited sampling of the site at pre-determined locations based on the known historic / operational configuration of the site. The conclusions given in this report are based on information gathered at the specific test locations and can only be extrapolated to an undefined limited area around those locations. The extent of the limited area depends on the properties of the materials adjacent and local conditions, together with the position of any current structures and underground utilities and facilities, and natural and other activities on site. In addition, chemical analysis was carried out for a limited number of parameters (as stipulated in the scope between the client and RSK, based on an understanding of the available operational and historical information) and it should not be inferred that other chemical species are not present.

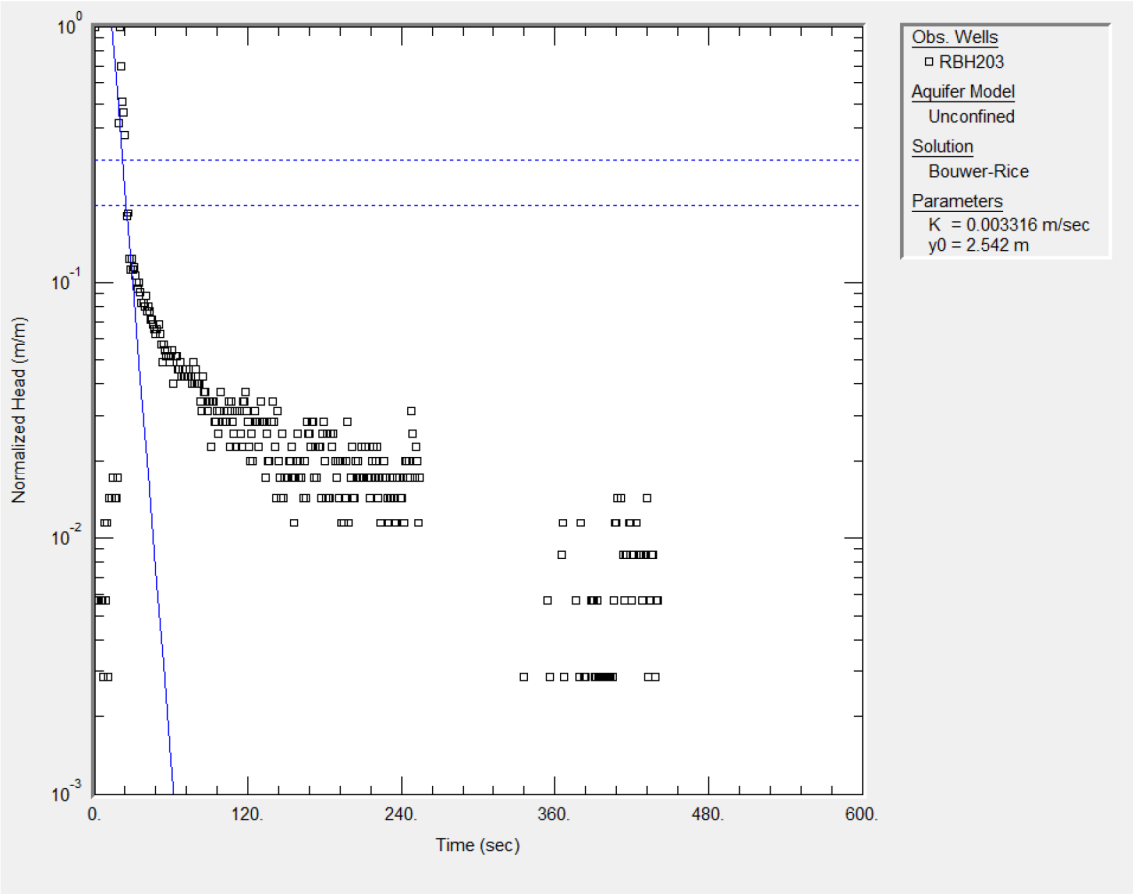
9. Any site drawing(s) provided in this report is (are) not meant to be an accurate base plan but is (are) used to present the general relative locations of features on, and surrounding, the site. Features (intrusive and sample locations etc) annotated on site plans are not drawn to scale but are centred over the approximate location. Such features should not be used for setting out and should be considered indicative only.

10. The comments given in this report and the opinions expressed are based on the ground conditions encountered during the site work and on the results of tests made in the field and in the laboratory. However, there may be conditions pertaining to the site that have not been disclosed by the investigation and therefore could not be taken into account. In particular, it should be noted that there may be areas of made ground not detected due to the limited nature of the investigation or the thickness and quality of made ground across the site may be variable. In addition, groundwater levels and ground gas concentrations and flows, may vary from those reported due to seasonal, or other, effects and the limitations stated in the data should be recognised.

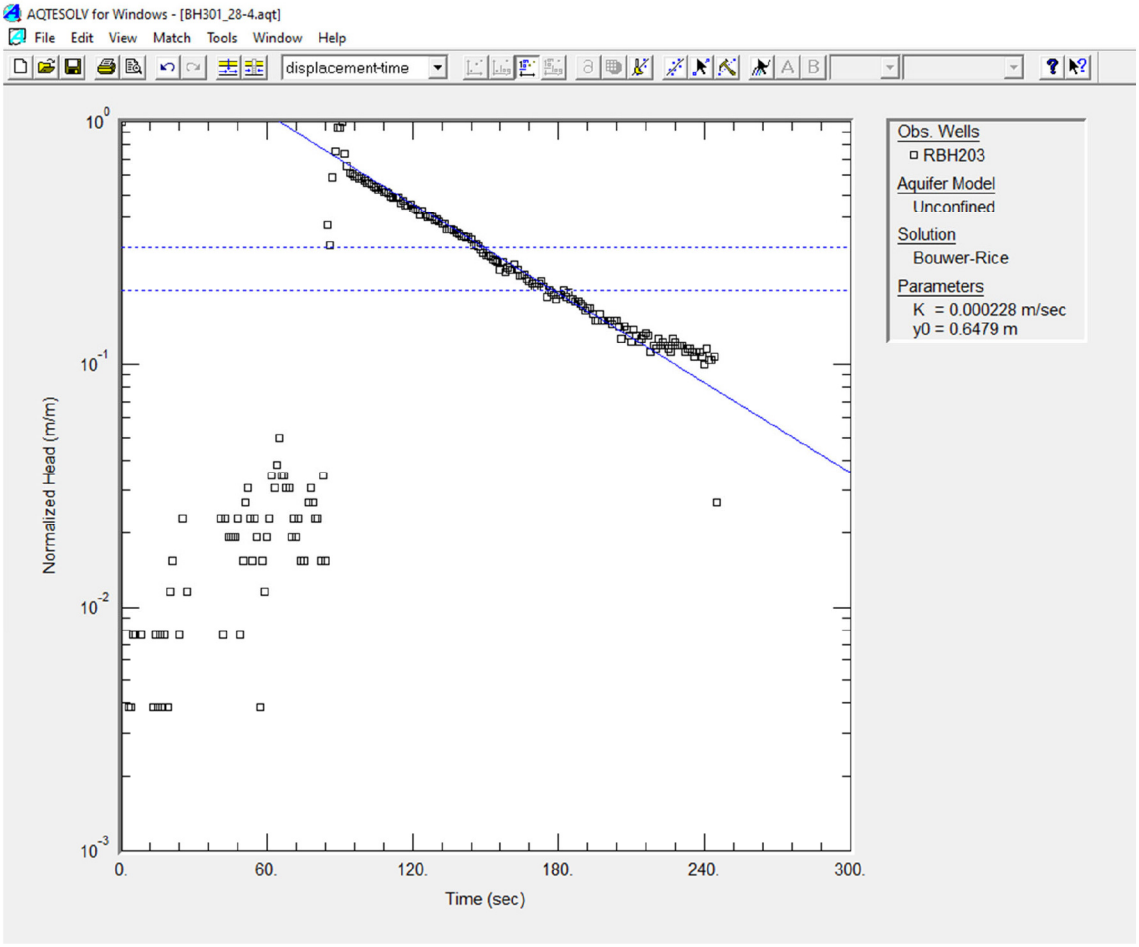
11. Asbestos is often observed to be present in soils in discrete areas. Whilst asbestos-containing materials may have been locally encountered during the fieldworks or supporting laboratory analysis, the history of brownfield and demolition sites indicates that asbestos fibres may be present more widely in soils and aggregates, which could be encountered during more extensive ground works.

12. Unless stated otherwise, only preliminary geotechnical recommendations are presented in this report and these should be verified in a Geotechnical Design Report, once proposed construction and structural design proposals are confirmed.

APPENDIX B
HYDRAULIC CONDUCTIVITY DATA



CHES: Very weak reddish brown fine grained SANDSTONE inter-bedded with bands of fine sand. Joints are horizontal closely Spaced, with layers of weathered rock recovered as sand at response zone.



CHES: Reddish brown fine to medium grained SANDSTONE (CHESTER FORMATION); no description of weathering, fractures or layers at higher permeability.

APPENDIX C
CONTROLLED WATERS GENERIC ASSESSMENT CRITERIA

GENERIC ASSESSMENT CRITERIA FOR CONTROLLED WATERS

Protection of the water environment

The water environment in the United Kingdom is protected under a number of regulatory regimes. The relevant environmental regulator is consulted where there may be a risk that pollution of 'controlled waters' may occur or may have occurred in the past.

The term 'controlled waters' refers to coastal waters, inland freshwaters and groundwater. The EU Water Framework Directive (WFD) (2000/60/EC) is implemented via domestic regulations and guidance, covering aspects of groundwater and surface water protection as well as drinking water supply policy. Domestic legislation and guidance will vary across the United Kingdom. Therefore, the relevant legislation for England, Wales, Northern Ireland and Scotland should be reviewed, alongside guidance provided by the Environment Agency (EA), Natural Resource Wales (NRW), the Scottish Environmental Protection Agency (SEPA) or the Northern Ireland Environment Agency (NIEA), as appropriate.

The main objectives of the protection and remediation of groundwater under threat from land contamination are set out within "The Environment Agency's approach to groundwater protection", version 1.0 (March 2017)(1) and the associated guidance "Land contamination groundwater compliance points: quantitative risk assessments (March 2017)(1a) that have replaced the previous guidance document "Groundwater Principles and Practice (GP3)". When assessing risks to groundwater, the following need to be considered:

- Where pollutants have not yet entered groundwater, all necessary and reasonable measures must be taken to:
    - ***prevent*** *the input of* ***hazardous*** *substances into groundwater (see description of hazardous substances below)*
    - ***limit*** *the entry of other (non-hazardous) pollutants into groundwater to avoid pollution, deterioration in the status of groundwater bodies and to prevent sustained, upward trends in pollutant concentrations in groundwater.*
- Where pollutants have already entered groundwater, the priority is to take all necessary and reasonable measures to:
    - ***minimise*** *further entry of "contaminants" where there is a defined source*
    - ***limit the pollution*** *of groundwater or any effect on the status of the groundwater body from the future expansion of the 'plume', if necessary, by actively reducing its extent.*

Within the context of groundwater risk assessments on sites affected by land contamination, "reasonable" means feasible without involving disproportionate costs. What costs are "disproportionate" depends on site-specific circumstances, which may include:

- Considerations of technical feasibility such as identified by the remedial options appraisal, this may be due to the distribution or nature of the contamination and the available remedial methods to treat the identified contamination;
- Sustainability considerations.

DEFINITIONS AND SUBSTANCE CLASSIFICATIONS

Risks to surface waters:

When assessing risks to surface waters, the following list of definitions should be understood:

Priority substances (PS) are harmful substances originally identified under the Water Framework Directive (WFD) 2000/60/EC as substances 'presenting a significant risk to or via the aquatic environment' at a European level. Member States are required to incorporate the identified **PS** into their country-wide monitoring programmes. There are currently 33 **PS** defined within the Priority Substances Directive (2013/39/EU; Annex 1), with a further 12 additional substances due to come into force from 22 December 2018. Directive 2013/39/EU has been transposed into domestic legislation for England and Wales by The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

Under the umbrella of **PS**, there is a sub-set of substances identified as being "hazardous", and these are referred to as **Priority hazardous substances (PHS).** The list of **PHS** is defined at EU level within the Priority Substances Directive (2013/39/EU). The WFD defines hazardous substances as 'substances (or groups of substances) that are toxic, persistent and liable to bio-accumulate, and other substances or groups of substances that give rise to an equivalent level of concern.' There are currently **21 PHS** (previously 15 PHS, with a further 6 substances added in 22 December 2018).

There is also another group of substances defined at EU level and which are referred to as **other pollutants (OP)** in Directive 2013/39/EU**.** These are additional substances which although not **priority substances**, have EQS which are identical to those laid down in the legislation which applied prior to 13 January 2009 (Directive 2008/105/EU). The **OP** are listed along with the **priority substance (PS)** within the Priority Substances Directive (2013/39/EU),and their associated EQS are also listed therein. There are 6 **OP** defined within the Priority Substances Directive (2013/39/EU).

In addition to the EU level substances, there are also a group of pollutants defined at a Member State level, referred to as **Specific pollutants (SP)**. These substances are pollutants which are released in significant quantities into water bodies in each of the individual European Member States. Under the WFD, Member States are required to set their own EQS for these substances. An indicative list of **SP** is given in Annex VIII of the WFD. Many of the substances categorised as **SP** in the UK were formerly List 2 substances under the old Groundwater Directive (80/68/EEC). The **SP** are defined within Part 2 (Table 1) of The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

Risks to groundwater:

When assessing risks to groundwater, the following definitions should be understood:

Under the requirements of the Groundwater Daughter Directive (2006/118/EU), the UK has published a list of substances it considers to be **hazardous substances** with respect to groundwater. In their advisory capacity to the government, this list has been derived by the UK Joint Agencies Groundwater Directive Advisory Group (JAGDAG), of which the Environment Agency is a member. The latest JAGDAG list of **hazardous substances** was published in January 2019 and the Environment Agency will use the updated list of hazardous substances from this date for all new activities that may lead to the discharge of hazardous substances to groundwater. The list is extensive and can be found in full at:

https://www.wfduk.org/stakeholders/jagdag

Selecting the appropriate assessment criteria

When assessing the risks to controlled waters, various assessment criteria apply, depending on the nature of the assessment and the conceptual site model.

Where a surface water body is involved, then Environmental Quality Standards (EQS) are the relevant assessment criteria as they are designed to be protective of surface water ecology.

Where a public water supply or a Principal aquifer is involved, then the standards defined in The Water Supply (Water Quality) Regulations[2] are the primary source of assessment criteria. The Private Water Supplies Regulations[3] may also be applicable in some cases. For instances where there are no UK assessment criteria, then the World Health Organisation (WHO) drinking water guidelines[4] may be used.

This appendix presents the generic assessment criteria (GAC) that RSK considers suitable for assessing risks to controlled waters for our most commonly encountered determinants. A full list of EQS for England and Wales are included in The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.

The RSK GAC for controlled waters are presented in **Table 1** and **Table 2**. In line with the Environment Agency's Remedial Targets Methodology, the GAC for controlled waters are termed 'target concentrations'.

The appropriate target concentrations should be selected with consideration to:

- the site conceptual model (i.e. the receptor at potential risk);
- whether the substance is already present in groundwater at the site;
- whether or not the substance is classified as a priority hazardous substance under the Priority Substances Directive (2013/39/EC) (see above), or as a hazardous substance according to the current list of JAGDAG determinations[5]; and
- background concentrations in the aquifer (if applicable).

It is important to remember that the WFD and Environment Agency guidance[1 & 1a] support a sustainable, risk-based approach be applied to groundwater contamination. Exceedance of any target concentration does not necessarily imply that an unacceptable risk exists or that remediation is inevitably required.

Target concentrations shaded in green are statutory values	Target concentrations shaded in orange are non-statutory values

Note: Units µg/l throughout (unless otherwise stated)

Table 1: Target concentrations for controlled waters (excluding TPH CWG fractions)

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Metals & other inorganics						
Hazardous substance	Specific pollutant	Arsenic	-	10[2]	50[6a]	25[6a]
Non-hazardous pollutant	Priority substance	Cadmium	0.1[7]	5[2]	≤0.08, 0.08, 0.09, 0.15, 0.25 [6b]	0.2[6ε]
(Not determined)	-	Chromium (total)	-	50[2]	8.1 Sum values for chromium III and VI	-
(Not determined)	Specific pollutant	Chromium (III)	-	Use value for total chromium	4.7[6a]	-
Hazardous substance	Specific pollutant	Chromium (VI)			3.4[6a]	0.6[6ε]

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
(Not determined)	Specific pollutant	Copper	-	2,000[2]	1 bioavailable[6a]	3.76 dissolved, where DOC ≤1mg/l[6a] 3.76µg/l + (2.677µg/l x ((DOC/2) – 0.5µg/l)) dissolved, where DOC >1mg/l[6a]
Hazardous substance	Priority substance	Lead	-	10[2]	1.2 bioavailable[6a]	1.3[6a]
Hazardous substance	**Priority hazardous substance**	Mercury	0.01[7]	1[2]	0.07[6c]	0.07[6c]
Non-hazardous pollutant	Priority substance	Nickel	-	20[2]	4.0 bioavailable[6a]	8.6[6a]
Non-hazardous pollutant	-	Selenium	-	10[2]	-	-
Non-hazardous pollutant	Specific pollutant	Zinc	-	3,000[8]	10.9 bioavailable[6a]	6.8 dissolved [6a]
(Not determined)	Specific pollutant	Iron	-	200[2]	1000[6a]*1	1000[6a])*1
(Not determined)	Specific pollutant	Manganese	-	50[2] (0.05mg/l)	123 bioavailable[6a] (0.123mg/l)	-
(Not determined)	-	Aluminium	-	200[2]	-	-

Substance classification		Determinant	Target concentrations (µg/l)			
			Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
Groundwater receptors[5]	Surface water receptors[6]				Freshwater	Transitional (estuaries) and coastal waters
Hazardous substance	**Priority hazardous substance**	Tributyltin compounds (Tributyltin-cation)	0.001[7]	-	0.0002[6a]	0.0002[6a]
(Not determined)	-	Sodium	-	200,000[2] (200 mg/l)	-	-
Non-hazardous pollutant	Specific pollutant	Cyanide (Hydrogen cyanide)	-	50[2] (0.05 mg/l)	1[6a] (0.001 mg/l)	1[6a] (0.001 mg/l)
Non-hazardous pollutant	-	Total ammoniacal nitrogen[$]	-	500[2] (0.5 mg/l) as NH_4 (472 expressed as NH_3; 389 expressed as N)	300[6f] (0.3 mg/l) as N (364 expressed as NH_3; 386 expressed as NH_4)	-
Non-hazardous pollutant	Specific pollutant	Ammonia un-ionised (equilibrium ratio calculated) (NH_3)	-	-	-	21[6a] (0.021 mg/l)
Non-hazardous pollutant	Specific pollutant	Chlorine	-	-	2[6a] (0.002 mg/l)	10[6d] (0.01 mg/l)
(Not determined)	-	Chloride	-	250,000[2] (250 mg/l)	-	-
(Not determined)	-	Sulphate	-	250,000[2] (250 mg/l)	-	-
(Not determined)	-	Nitrate (as NO_3)	-	50,000[2] (50 mg/l)	-	-

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
(Not determined)	-	Nitrite (as NO_2)	-	500[2] (0.5 mg/l)	10[9] (0.01 mg/l)	-
Volatile organic compounds (VOC)						
Non-hazardous pollutant	Other pollutant	Tetrachloroethene (tetrachloroethylene; PCE)	0.1[7]	10[2] sum of TCE and PCE	10[6a]	10[6a]
Hazardous substance	Other pollutant	Trichloroethene (trichloroethylene; TCE)	0.1[7]		10[6a]	10[6a]
Hazardous substance *(1,1,2,2-tetra - choloroethane)*	Specific pollutant	Tetrachloroethane	-	-	140[6a]	-
Hazardous substance	Other pollutant	Carbon tetrachloride (tetrachloromethane)	0.1[7]	3.0[2]	12[6a]	12[6a]
Non-hazardous pollutant	Priority substance	1,2-Dichloroethane	1.0[7]	3.0[2]	10[6a]	10[6a]
Non-hazardous pollutant	-	1.2-Dichloroethene (DCE) sum of cis and trans	-	50.0[4]	-	-
Hazardous substance	-	Vinyl chloride (chloroethene, chloroethylene)	-	0.5[2]	-	-
Non-hazardous pollutant	Priority substance	Dichloromethane	-	20[4]	20[6a]	20[6a]

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Non-hazardous pollutant	Priority substance	Trichlorobenzenes	0.01[7]	-	0.4[6a]	0.4[(6a)]
Hazardous substance	Priority substance	Trichloromethane (Chloroform)	0.1[7]	100[2a] (sum of **trihalomethanes** – chloroform, bromform, dibromochloromethane, bromodichloromethane)	2.5[6a]	2.5[6ε]
(Not determined)	-	Bromoform	-		-	-
(Not determined)	-	Dibromochloromethane	-		-	-
(Not determined)	-	Bromodichloromethane	-		-	-
Non-hazardous pollutant	**Priority hazardous substance**	Di(2-ethylhexyl) phthalate (bis(2-ethylhexyl) phthalate, DEHP)	-	8[4]	1.3[6a]	1.3[6ε]
(Not determined)	Specific pollutant	Benzyl butyl phthalate	-	-	7.5[6a]	0.75[6e]
Hazardous substance	**Priority hazardous substance**	Hexachlorobutadiene (as a pesticide, but reported in a VOC suite)	0.005[7]	0.1[2]	0.6[6c]	0.6[6c]
Semi-volatile organic compounds (SVOC)						
(Not determined) *Not to be confused with acenaphthene, which is a hazardous substance*	-	Acenaphthylene (Aro EC12-EC16)	-	-	5.8[10]	
Hazardous substance	**Priority hazardous substance**	Anthracene (Aro EC16-EC21)	-	-	0.1[6a]	0.1[6ε]

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Non-hazardous pollutant	Priority substance	Naphthalene (Aro EC10-EC12)	-	-	2[6a]	2[6a]
Hazardous substance	Priority substance	Fluoranthene (Aro EC21-EC35) not used as an indicator for this EC band	-	-	0.0063[6a]	0.0063[6a]
Hazardous substance(s)	**Priority hazardous substance(s)**	Benzo(a)pyrene (Aro EC21-EC35)	-	0.01[2]	0.00017[6a]	0.00017[6a]
		Benzo(b)fluoranthene (Aro EC21-EC35)	-	0.1[2] sum of the concentration of the four specified compounds	No EQS for these substances. B(a)P should be used as the indicator compound instead.	
		Benzo(k)fluoranthene (Aro EC21-EC35)	-			
		Benzo(g,h,i)perylene (Aro EC21-EC35)	-			
		Indeno(1,2,3-cd) pyrene (Aro EC21-EC35)	-			
Non-hazardous pollutant	Specific pollutant	Phenol	-	-	7.7[6a]	7.7[6a]
Hazardous substance	Specific pollutant	2,4-Dichlorophenol	0.1[7]	-	4.2[6a]	0.42[6a]

Substance classification		Determinant	Target concentrations (µg/l)			
					EQS or best equivalent	
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	Freshwater	Transitional (estuaries) and coastal waters
Hazardous substance	Priority substance	Pentachloro-phenol (PCP) (as a pesticide, but reported in an SVOC suite)	0.1[7]	0.1[2]	0.4[6a]	0.4[6a]
Petroleum hydrocarbons						
Hazardous substance	-	Total petroleum hydrocarbons	-	See Table 2 for individual (non-statutory) TPH CWG fractions with respect to drinking water receptors	See individual risk driving compounds (i.e. BTEX and PAH) for specific EQS	
Hazardous substance	Priority substance	Benzene (Aro EC5-EC7)	1[7]	1[2]	10[6a]	8[6a]
Hazardous substance	Specific pollutant	Toluene (Aro EC7-EC8)	4[7]	700[4]	74[6a]	74[6a]
Hazardous substance	-	Ethylbenzene (Aro EC8-EC10)	-	300[4]	300[11]	-
Hazardous substance	-	Xylenes (Aro EC8-EC10)	3[7]	500[4]	30[11]	-
Non-hazardous pollutant	-	Methyl tertiary butyl ether (MTBE)	-	15[12]	-	

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Pesticides, fungicides, insecticides and herbicides						
(Not determined) – assume to be Hazardous Substance as per below	-	Total pesticides	-	0.5[2]	-	-
(Not determined) - assume to be Hazardous Substance as per below	-	Other individual pesticides (unless otherwise detailed below)	-	0.1[2]	-	-
Hazardous substance(s)	Other pollutant (Cyclodiene pesticides)	Aldrin	0.003[7]	0.03[2]	0.01[6a] (sum of all four)	0.005[6a] (sum of all four)
		Dieldrin	0.003[7]	0.03[2]		
		Endrin	0.003[7]	0.1[2b] ('other individual pesticide')		
		Isodrin*[2]	0.003[7]	0.1[2b] ('other individual pesticide')		
Hazardous substance	Other pollutant	DDT (total)	0.002[7]	0.1[2] ('other individual pesticide')	0.025[6a]	0.025[6a]
Hazardous substance	Specific pollutant	Carbendazim	-	0.1[2] ('other individual pesticide')	0.15[6a]	-

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Hazardous substance	Specific pollutant	Chlorothalonil	-	0.1[2] ('other individual pesticide')	0.035[6a]	-
Hazardous substance	Priority substance	Cypermethrin	-	0.1[2] ('other individual pesticide')	8.0E-5[6a]	8.0E-6[6a]
Hazardous substance	Specific pollutant	Dimethoate	0.01[7]	0.1[2] ('other individual pesticide')	0.48[6a]	0.48[6a]
(Not determined)	Specific pollutant	Glyphosate	-	0.1[2] ('other individual pesticide')	196[6a]	196[6a]
Hazardous substance	Specific pollutant	Linuron	-	0.1[2] ('other individual pesticide')	0.5[6a]	0.5[6a]
Non-hazardous pollutant	Specific pollutant	Mecoprop	0.04[7]	0.1[2] ('other individual pesticide')	18[6a]	18[6a]
Non-hazardous pollutant	Specific pollutant	Methiocarb	-	0.1[2] ('other individual pesticide')	0.01[6a]	-
Non-hazardous pollutant	Specific pollutant	Pendimethalin	-	0.1[2] ('other individual pesticide')	0.3[6a]	-

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Hazardous substance	Specific pollutant	Permethrin	0.001[7]	0.1[2] ('other individual pesticide')	0.001[6a]	0.0002[6a]
Hazardous substance	Priority substance	Alachlor	-	0.1[2] ('other individual pesticide')	0.3[6a]	0.3[6a]
Hazardous substance	Priority substance	Atrazine	0.03[7]	100[4] ('other individual pesticide')	0.6[6a]	0.6[6a]
Hazardous substance	Priority substance	Diuron	-	0.1[2] ('other individual pesticide')	0.2[6a]	0.2[6a]
Hazardous substance	**Priority hazardous substance**	Endosulphan	0.005[7]	0.1[2] ('other individual pesticide')	0.005[6a]	0.0005[6a]
Non-hazardous pollutant	Priority substance	Isoproturon	-	0.1[2] ('other individual pesticide')	0.3[6a]	0.3[6a]
Hazardous substance	Priority substance	Simazine	0.03[7]	0.1[2] ('other individual pesticide')	1[6a]	1 [6a]
Hazardous substance	**Priority hazardous substance**	Trifluralin	0.01[7]	0.1[2] ('other individual pesticide')	0.03[6a]	0.03[6a]

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters
Hazardous substance	Priority substance	Dichlorvos	-	0.1[2] ('other individual pesticide')	$6.0E^{-4}$[6a]	$6.0E^{-5}$[6a]
Hazardous substance	Priority substance	Heptachlor and heptachlor epoxide	-	0.03[2]	$2.0E^{-7}$[6a]	$1.0E^{-08}$[6a]
Miscellaneous						
(Not determined)	Specific pollutant	Triclosan (antibacterial agent)	-	-	0.1[6a]	0.1[6ε]
Hazardous substance	**Priority hazardous substance**	Perfluoro-octane sulfonic acid (and its derivatives) (PFOS)	-	-	$6.5E^{-4}$[6a]	$1.3E^{-4}$[6a]
Hazardous substance	**Priority hazardous substance**	Hexabromo cyclododecane (HBCDD)	-	-	0.0016[6a]	0.0008[6a]

Substance classification		Determinant	Target concentrations (µg/l)			
Groundwater receptors[5]	Surface water receptors[6]		Minimum reporting value	UK drinking water standard (or best equivalent)	EQS or best equivalent	
					Freshwater	Transitional (estuaries) and coastal waters

Notes:

'-' A target concentration is not available.

$Please note that total ammonia (NH_4^+ and NH_3) is equivalent to ammoniacal nitrogen in laboratory reports

*1 Please note that although iron is listed in the 2015 Direction as 1.000 µg/l, the EQS remains at 1mg/l in Scotland and it is assumed this is an error and should read either 1,000 or 1000µg/l.

*2 Please note that although Isodrin is not listed in name within the group of "Cyclodiene pesticides" in Table 1 of Schedule 3 Part 3 of the 2015 Direction[6], the CAS number for Isodrin (465-73-6) **is** listed and therefore it is assumed that it has been missed off the named list of substances.

*3 Total petroleum hydrocarbons is used for consistency, but is an analytical method-defined measurement for a mixture of hydrocarbons subject to environmental analysis[11].

"Bioavailable" in relation to copper, zinc, nickel and manganese (but not lead) is the generic EQSbioavailable[6a] derived from the Metal Bioavailability Assessment Tool (M-BAT) developed by the Water Framework Directive UK Technical Advisory Group (WFDTAG). Exceedance of this value should prompt a site-specific assessment using the M-BAT with pH, DOC and Ca to derive a site-specific EQS termed the $PNEC_{dissolved}$. http://www.wfduk.org/resources/rivers-lakes-metal-bioavailability-assessment-tool-m-bat.

For zinc, if there is an exceedance of the EQSbioavailable in an initial GQRA, Tier 2 required that the EQS for zinc should also have the ambient background concentration of zinc added as well

Table 2: World Health Organization (WHO) guide values for TPH CWG fractions in drinking water[13] (as referenced in CL:AIRE, 2017[11])

TPH CWG fraction	WHO guide value for drinking water[13] (µg/l)
Aliphatic fractions:	
Aliphatic EC5-EC6	15,000
Aliphatic >EC6-EC8	15,000
Aliphatic >EC8-EC10	300
Aliphatic >EC10-EC12	300
Aliphatic >EC12-EC16	300
Aliphatic >EC16-EC21	-
Aliphatic >EC21-EC35	-
Aromatic fractions:	
Aromatic EC5-EC6	10 (benzene)
Aromatic >EC6-EC8	700 (toluene)
Aromatic >EC8-EC10	300 (ethyl benzene) 500 (xylenes)
Aromatic >EC10-EC12	90
Aromatic >EC12-EC16	90
Aromatic >EC16-EC21	90
Aromatic >EC21-EC35	90
Reference: World Health Organisation (WHO), 2008. Petroleum products in drinking-water. Background document for development of WHO guidelines for drinking water quality. WHO/SDE/WSH/05.08/123. World Health Organisation, Geneva[13].	

References

1. Environment Agency (2018), 'The Environment Agency's approach to groundwater protection', version 1.2, February 2018 (formerly contained within GP3). https://www.gov.uk/government/collections/groundwater-protection

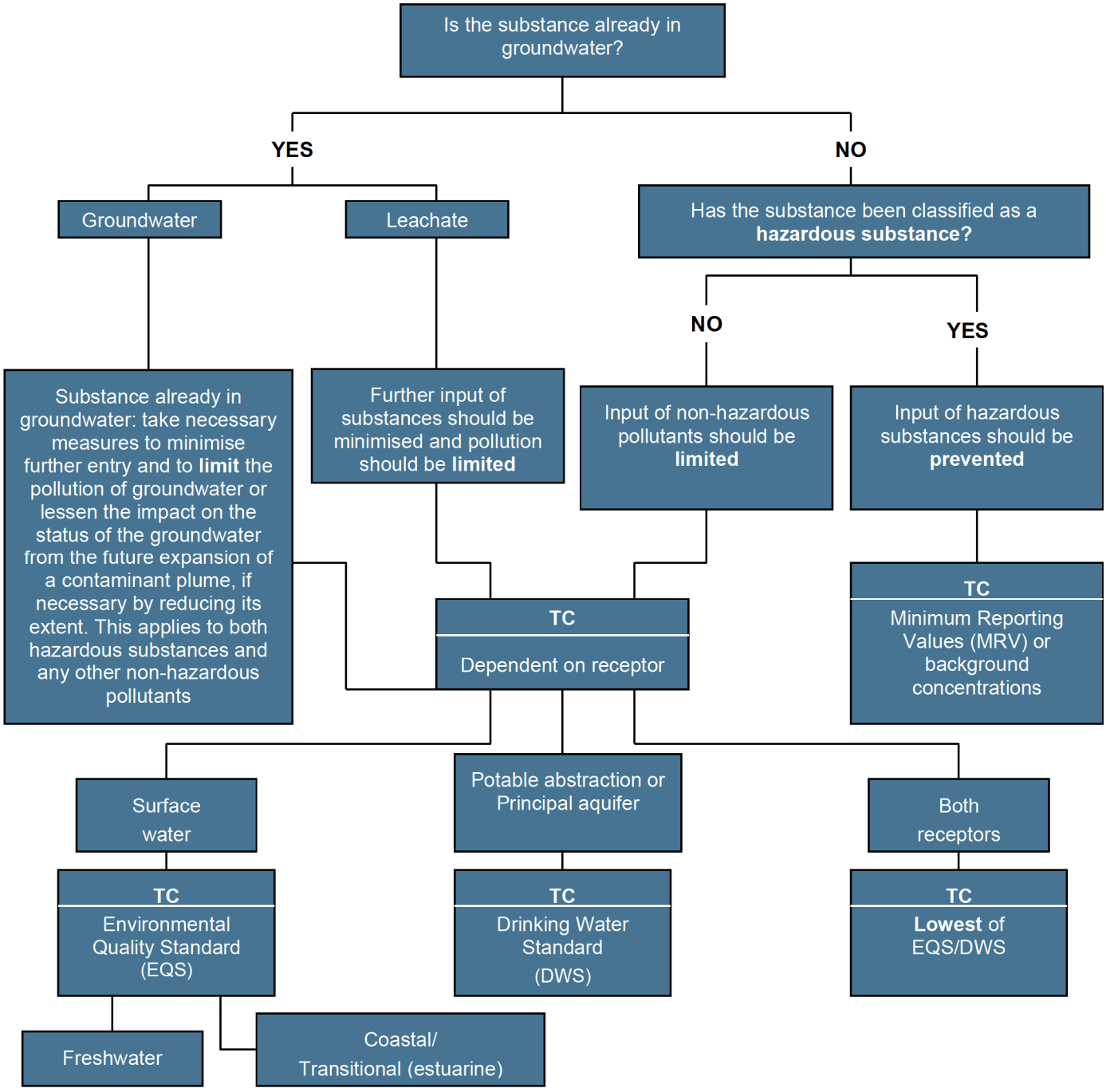
1a. Environment Agency (2017), 'Land contamination groundwater compliance points: quantitative risk assessments', March 2017 (formerly contained within GP3) [accessed 29 March 2017]. https://www.gov.uk/government/collections/groundwater-protection

2. The Water Supply (Water Quality) Regulations 2016 (SI 2016/619)
    - 2a. Sum of chloroform, bromoform, dibromochloromethane and bromodichloromethane
    - 2b. Standard applies to individual pesticides except aldrin, dieldrin, heptachlor and heptachlor epoxide, for which a separate standard is defined.
3. The Private Water Supplies (England) Regulations 2016. SI 2016 / 618
4. WHO (2011), *Guidelines for drinking-water quality*, 4th edn
5. JAGDAG hazard substance determinations (January 2019): This list contains substances that are determined to be hazardous substances or non-hazardous pollutants for the purposes of the groundwater directive 2006/118/EC. https://www.wfduk.org/stakeholders/jagdag [accessed 1 February 2021]
   The absence of an assessment or substance from the list means an assessment has not been completed and is therefore presented as 'Not determined'. For further details on how substances are assessed, see the Joint Agencies Groundwater Directive Advisory Group (JAGDAG) 'Methodology for the determination of hazardous substances in groundwater for the purposes of the groundwater directive 2006/118/EC' which is available from the JAGDAG website. The methodology is a UK –wide framework that sets criteria for how to assess whether a substance is a hazardous substances in groundwater.
6. The Water Framework Directive (Standards and Classification) Directions (England and Wales) 2015.
    - 6a. The EQS for these substances are based on a "long term mean" or an "annual average (AA)" EQS.
    - 6b. For cadmium and its compounds the EQS values vary depending on the hardness of the water as specified in five class categories (Class 1: < 40 mg CaCO3/l, Class 2: 40 to < 50 mg CaCO3/l, Class 3: 50 to < 100 mg CaCO3/l, Class 4: 100 to < 200 mg CaCO3/l and Class 5: ≥ 200 mg CaCO3/l).
    - 6c. The EQS for Mercury and hexachlorobutadiene are based on a "maximum acceptable concentration (MAC)" EQS in absence of an "annual average (AA)" EQS.
    - 6d. The EQS for chlorine in saltwater is based on the 95th percentile concentration of total residual oxidant, which refers to the sum of all oxidising agents existing in water, expressed as available chlorine.
    - 6e. The recommended saltwater standard is derived using a safety factor of 100. Where the standard is failed, it is recommended that supporting evidence of ecological damage should be obtained before committing to expensive action.
    - 6f. EQS for total ammonia is as per Schedule 3, Part 1, Table 7 of of the above directions. EQS applies to river types 1, 2 and 4 and 6 (namely upland and low alkalinity). The EQS for a lowland and high alkalinity rivers (types 3, 5 and 7) is 600µg/l (0.6mg/l).

   Additional information on the Metal Bioavailability Assessment Tool (M-BAT) is available at http://www.wfduk.org/resources/rivers-lakes-metal-bioavailability-assessment-tool-m-bat

7. Minimum reporting values listed at https://www.gov.uk/government/publications/values-for-groundwater-risk-assessments/hazardous-substances-to-groundwater-minimum-reporting-values (updated 13 January 2017; accessed 29 March 2017). Note target concentration for xylenes is 3 µg/l each for o-xylene and m/p xylene as it may not be possible to separate m- and p-xylene; 135 tcb, 124 tcb, 123 tcb each to 0.01 µg/l)
8. The Surface Waters (Abstraction for Drinking Water) (Classification) Regulations 1996 (as amended). SI 1996 / 3001
9. Council Directive on the Quality of Fresh Waters Needing Protection or Improvement in Order to Support Fish Life (Freshwater Fish Directive) (78/659/EEC)
10. WRc plc (2002), R&D Technical Report P45.
11. CL:AIRE, 2017. Petroleum Hydrocarbons in Groundwater: Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies. V1.1.
12. Drinking Water Inspectorate (London, UK). Environmental Information Request on MTBE in drinking water. Ref. DWI 1/10/18; dated 28 November 2006. Value is based on the odour threshold for MTBE, which is lower than a health-based guideline value
13. World Health Organisation (WHO), 2008. Petroleum products in drinking-water. Background document for development of WHO guidelines for drinking water quality. WHO/SDE/WSH/05.08/123. World Health Organisation, Geneva. [accessed 29 March 2017] http://www.who.int/water_sanitation_health/dwq/chemicals/petroleumproducts_2add_june2008.pdf

FLOW CHART TO ASSIST WITH SELECTION OF TARGET CONCENTRATIONS



TC = Target concentration

When leachate is being assessed the 'compliance point' is the groundwater body. Therefore dilution within the groundwater body may be applied with caution before comparing with the TC.

When directly assessing a receptor, e.g., a river, the appropriate TC should be selected.

APPENDIX D
MODEL INPUT PARAMETERS

MODEL INPUT PARAMETERS

Input parameters for the controlled waters DQRA, along with justification for each input **parameter are presented in Table A** and **Table B** below:

Table A: Input parameters for controlled waters assessment – soil source

Parameter	Value	Justification
Level 1 Parameters - MG gravelly sand/sandy gravel + Till (very soft to stiff sandy gravelly clay)		
Water filled porosity	0.37	RSK Literature values spreadsheet: Averaged value (Conner 1999); gravel porosity assumed 0.2. A value of 0.356 is obtained with the RTM porosity calculator, using a site-specific moisture content value of 20 (average of 5 values)
Air filled porosity	0.003	RTM porosity calculator (total porosity 0.36; water filled porosity 0.356)
Bulk density	1.78	Site specific data (average of 5 values)
Fraction of organic carbon (foc)	0.0506	Taken as average from made ground sample analysis at WS301 to WS309
Level 2 Parameters		
Infiltration (m/day)	173 mm/year	Value of 173 mm/year taken from 4328-ROC-ZZ-XX-DR-ES-ES208 Rev.01 based on data for the climate period 1991-2000, the annual rainfall at the Woodford station is estimated 864.40mm/year, The UK average evapo-transpiration losses are typically 40%. Approximately 95% of the site is anticipated to be hardstanding and / or covered by buildings, thus increasing runoff; conservatively the overall infiltration (aquifer recharge) has been estimated to be approximately 20% of the total rainfall (~173 mm/year)
Length of source in direction of groundwater flow (m)	25	Taken from Drawing TCE contamination (soil) 4328-ROC-ZZ-XX-DR-ES-ES208 Rev.01, considering the minimum potential remedial extent and the extent of historic bolt works in a direction parallel to the groundwater flow.
Width of source perpendicular to groundwater flow (m)	38	Taken as the Plot NT02 width perpendicular to the groundwater flow, at the south boundary of the site.
Saturated aquifer thickness (m)	20.69	The saturated aquifer thickness at the source can be assumed as above (8.30 m); however, the CHES

Parameter	Value	Justification
		and MM have some hydraulic interconnections based on their piezometry. At borehole RBH201 (north boundary of Plot NT02), screened in the CHES and MM, terminated in the MM (with interbedded thick bands of permeable sandstones) at 6.03 mAOD, with an average head of 26.72 in the period September 2022-January 2023, the aquifer thickness can be estimated to be 20.69 m.
Hydraulic conductivity of aquifer (m/d)	1.025	The tests indicate hydraulic conductivities for these deposits ranging between 19.70 m/day and 286.50 m/day, which falls above the literature range for sandstone in the Consim database of 2.59E-05 and 5.18E-01 m/day but within the Consim range for a coarse sand of 7.78E-02 to 5.18E+02. The value of K initially chosen for modelling has been derived from the geometric mean of the range of Consim literature values and the upper field test value. This gives a value of 1.025; this will be subject to sensitivity tests to establish the model sensitivity to this aquifer parameter.
Hydraulic gradient of water table (-)	0.004	Calculated from the average hydraulic head in the period April-June 2023 at boreholes LKBH03 (26.91 mAOD) and borehole LKBH01 (26.63mAOD) over a distance of 67.00 m. The piezometry in the PlotNT2 area is controlled by the low hydraulic head points at RBH202 and RBH205; however, the western part of the plot is less affected by this feature and is considered to be representative of the general NNW groundwater flow direction towards the River Irk.
Level 3 Parameters – Chester Formation - Sandstone		
Effective porosity of aquifer (-)	0.365	Taken as average of geometric mean for literature value for sandstone 0.34 (range 0.14-0.49) and coarse sand 0.39 (range 0.31-0.46) McWhorter, D.B., and D.K. Sunada, "Ground-Water Hydrology and. Hydraulics," 1948, (1984 reprint) (1977 1st edition)

Parameter	Value	Justification
Bulk density of aquifer materials (g/cm^3)	2.14	Average value from Consim literature range for sandstone
Fraction of organic carbon (foc)	0.0039	Taken as average from sandstone sample analysis at WS30, WS303 and WS304
Distance to compliance point (m)	50.00 m	Distance from soil source area to the down gradient site boundary
Degradation half-life (days)	Based on groundwater monitoring data an aerobic degradation half-life has been selected for modelling. High groundwater degradation rate literature values taken from Handbook of Environmental Degradation Rates, Howard et al, 1991	

Table B: Input parameters for controlled waters assessment – Groundwater source

Parameter	Value	Justification
Initial Contaminant Concentration in Groundwater (mg/l)	0.572	Maximum TCE concentration detected in the Chester Fm aquifer (RBH203, 04/10/2022).
Width of plume in aquifer at source (m)	38m	Taken as the Plot NT02 width perpendicular to the groundwater flow, at the south boundary of the site.
Plume thickness at source (m)	8.3	The TCE source most representative hole is RBH203, screened in the CHES Formation (encountered up to 18.52mAOD) and terminated at 14.09mAOD in the MM Formation; its average hydraulic head is 28.82mAOD in the period May-June 2023. Assuming that, at the source, the dissolved TCE would mainly develop within the more permeable CHES sandstone, and the TCE vertical migration would be inhibited by the less permeable MM, the plume thickness at source is calculated to be 8.3m.
Saturated aquifer thickness (m)	20.69	The saturated aquifer thickness at the source can be assumed as above (8.3m); however, the CHES and MM have some hydraulic interconnections based on their piezometry. At borehole RBH201 (north boundary of Plot NT02), screened in the CHES and MM, terminated in the MM (with interbedded thick bands of permeable sandstones) at 6.03mAOD, with an average head of 26.72 in the period September 2022-January 2023, the aquifer thickness can be estimated to be 20.69m.
Aquifer Bulk density of aquifer materials (g/cm^3)	2.14	Average value from Consim literature range for sandstone
Effective porosity of aquifer (ad.)	0.365	Taken as average of geometric mean for literature value for sandstone 0.34 (range 0.14-0.49) and coarse sand 0.39 (range 0.31-0.46) McWhorter, D.B., and D.K. Sunada, "Ground-Water Hydrology and. Hydraulics," 1948, (1984 reprint) (1977 1st edition)
Hydraulic gradient (ad.)	0.004	Calculated from the average hydraulic head in the period April-June 2023 at boreholes LKBH03 (26.91mAOD) and borehole LKBH01 (26.63mAOD) over a distance of 66.96m. The piezometry in the PlotNT2 area is controlled by the low hydraulic head points at RBH202 and RBH205; however, the western part of the plot is less affected by this feature and is considered to be representative of the general NNW groundwater flow direction towards the River Rye.
Hydraulic conductivity (m/d)	1.025	The tests indicate hydraulic conductivities for these deposits ranging between 19.70 m/day and 286.50 m/day, which falls above the literature range for sandstone in the Consim database of 2.59E-05 and 5.18E-01 m/day but within the Consim range for a coarse sand of 7.78E-02 to 5.18E+02 which likely

Parameter	Value	Justification
		better represents the description of the weathered sandstone. The value of K initially chosen for modelling has been derived from the geometric mean of the range of Consim literature values and the upper field test value. This gives a value of 1.025; this will be subject to sensitivity tests to establish the model sensitivity to this aquifer parameter.
Fraction of organic carbon (foc)	0.0039	Taken as average from sandstone sample analysis at WS301 (4.5 mbgl), WS303 (3.1 mbgl) and WS304 (3.5mbgl)
Distance to compliance point (m)	50	Distance from soil source area/ area of maximum groundwater concentrations to the down gradient site boundary

APPENDIX E
QUANTITATIVE MODELLING RESULTS

Site Name:	Plot NT02 Dantzic Street	Completed by: Emma Atkinson
Site Address:	Plot NT02 Dantzic Street	Date: 13-Jul-23

SITE SPECIFIC INPUTS FOR INDIVIDUAL SUBSTANCES — Version: Controlled waters risk assessment

Table W

Contaminant	Target Concentration (CT) mg/l	Origin of CT:	Soil Source for Impact on Groundwater: Soil concentration for Level 3 soil sheet and soil impact results sheet (mg/kg)	Soil Source for Impact on Groundwater: Comment on soil source concentrations for Level 3 soil sheet and soil impact results	Soil Source for Impact on Groundwater: Option: Concentration of contaminant in contaminated discharge entering receptor (mg/l)	Soil Source for Impact on Groundwater: Comment on concentration of contaminant in contaminated discharge (entering receptor)	Soil Source for Impact on Groundwater: Option: Background concentration of contaminant in groundwater beneath site (mg/l)	Soil Source for Impact on Groundwater: Justification of background concentration of contaminant in groundwater beneath site	Groundwater Source (Level 3 Groundwater): Initial contaminant concentration in groundwater at plume core (mg/l)	Groundwater Source (Level 3 Groundwater): Comment on groundwater source concentrations
Trichloroethene (TCE)	**0.01**	**Drinking Water Standards (DWS)**	1.13	Maximum concentration (WS308at 1.00 m bgl on 03/04/2023)	0.00E+00	Comment	0.00E+00	Assume background water not impacted	0572	Maximum concentration (RBH203 on 04/10/2022)
Carbon tetrachloride (tetrachloromethane)	**0.003**	**Drinking Water Standards (DWS)**	0.038	Maximum concentration (WS308at 1.00 m bgl on 03/04/2023)	0.00E+00	Comment	0.00E+00	Assume background water not impacted	0265	Maximum concentration RBH203 19/01/2023
Cis/trans 1,2-dichloroethene (DCE)	**0.05**	**Drinking Water Standards (DWS)**	0	Not detected in soils	0.00E+00	Comment	0.00E+00	Assume background water not impacted	0602	Maximum concentration LK BH01 19/01/2023
Vinyl Chloride (chloroethene)	**0.0005**	**Drinking Water Standards (DWS)**	0	Not detected in soils	0.00E+00	Comment	0.00E+00	Assume background water not impacted	0016	Maximum concentration LK BH01 27/09/2022

Site Name:	Plot NT02 Dantzic Street	Completed by: Emma Atkinson
Site Address:	Plot NT02 Dantzic Street	Date: 13-Jul-23

Table X — Version: Controlled waters risk assessment

SUBSTANCE SPECIFIC INPUTS FOR INDIVIDUAL SUBSTANCES

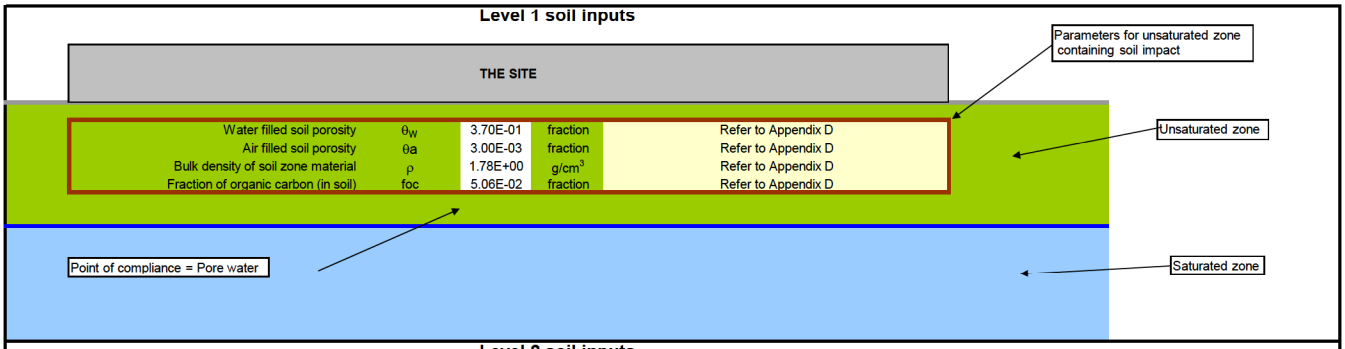
Contaminant	Organic carbon partition coefficient (Koc)	Source of Koc	Henry's Law constant (dimensionless)	Source of Henry's Law	Half life for degradation of contaminant in water (d)	Source of Half Life - Howard et al 1991, Handbook of Environmental Degradation Rates and CONSIM
Trichloroethene (*CE)	1.41E+02	SR7	1.87E-01	SR7	1.65E+03	*Howard et al high half life (aeraic conditions)*
Carbon tetrachloride (tetrachloromethane)	2.46E+02	SR7	5.82E-01	SR7	3.60E+02	*Howard et al max aerobic rate (more conservative)*
Cis/trans 1,2-dichloroethene (DCE)	3.90E+01	ConSim	3.87E-01	ConSim	2.88E+03	*Howard et al high half life (aeraic conditions)*
Vinyl Chloride (chloroethene)	1.66E+01	SR7	7.47E-01	SR7	7.20E+02	*Howard et al high aneerobc half life*

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Soil Source in the Unsaturated Zone

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Site Address: Plot NT02 Dantzic Street

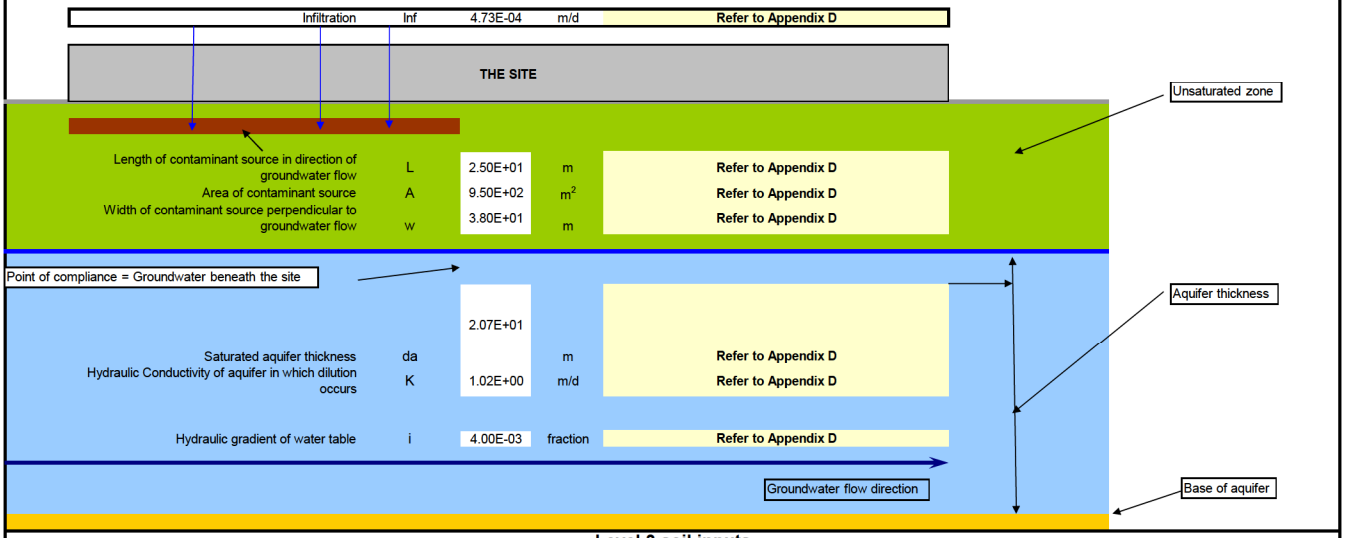
Completed by: Emma Atkinson
Date: 13-Jul-23 **Version:** Controlled waters risk assessment

Level 1 soil inputs



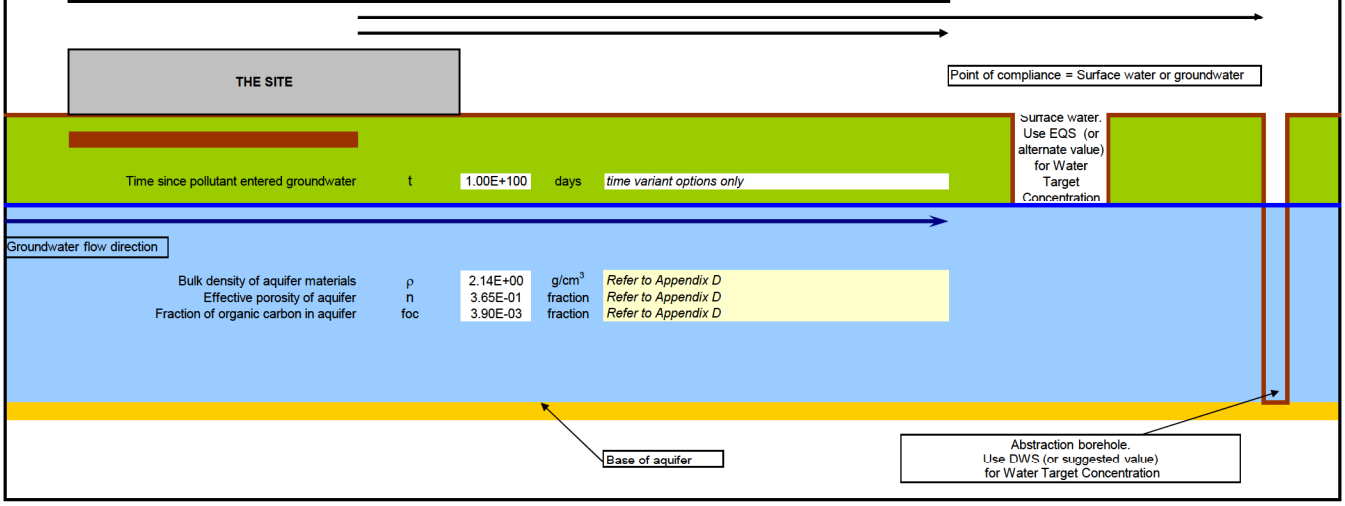
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θ_a	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Infiltration	Inf	4.73E-04	m/d	Refer to Appendix D
Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	Refer to Appendix D
Area of contaminant source	A	9.50E+02	m^2	Refer to Appendix D
Width of contaminant source perpendicular to groundwater flow	w	3.80E+01	m	Refer to Appendix D
		2.07E+01		
Saturated aquifer thickness	da		m	Refer to Appendix D
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E+00	m/d	Refer to Appendix D
Hydraulic gradient of water table	i	4.00E-03	fraction	Refer to Appendix D

Level 3 soil inputs



Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

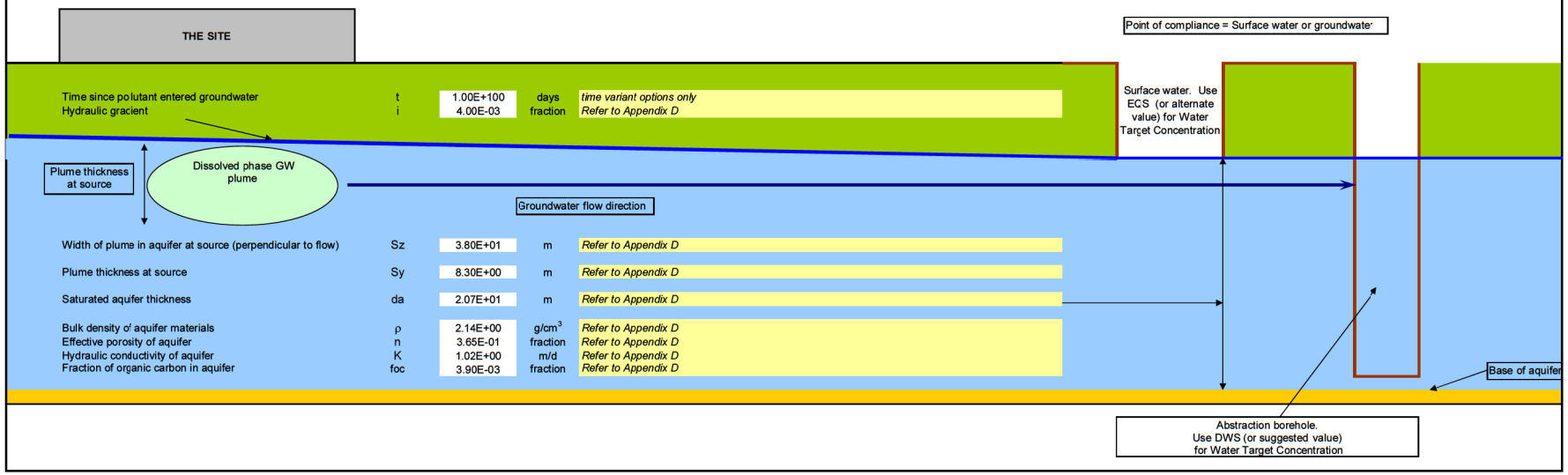
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23 **Version:** Controlled waters risk assessment

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*



Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.00E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.80E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E+00	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS Version: Controlled waters risk assessment

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	2.10E-01	2.85E-02	6.54E-01	8.89E-02	5.45E-02	52
Carbon tetrachloride (tetrachlorc	0.003	3.79E-02	0.003	1.08E-01	8.55E-03	8.88E+00	7.03E-01	1.55E+00	81
Cis/trans 1,2-dichloroethene (DC	0.05	1.09E-01	0.05	3.11E-01	1.43E-01	6.09E-01	2.79E-01	1.38E-01	23
Vinyl Chloride (chloroethene)	0.0005	5.25E-04	0.0005	1.50E-03	1.43E-03	1.70E-02	1.62E-02	1.72E-02	17

Site Name:	**Plot NT02 Dantzic Street**				
Site Address:	**Plot NT02 Dantzic Street**				
SUMMARY OF RESULTS FROM RTM WORKSHEETS			**Version:**	**Controlled waters risk assessment**	
TABLE Z		**PREDICTED CONCENTRATION AT POINT OF COMPLIANCE**			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	1.54E-01	5.39E-02	1.73E-02	1.05E-01
Carbon tetrachloride (tetrachlor	0.003	3.01E-03	1.06E-03	1.28E-05	5.14E-04
Cis/trans 1,2-dichloroethene (DC	0.05	0.00E+00	0.00E+00	0.00E+00	2.19E-01
Vinyl Chloride (chloroethene)	0.0005	0.00E+00	0.00E+00	0.00E+00	4.64E-04

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

RSK GEOSCIENCES

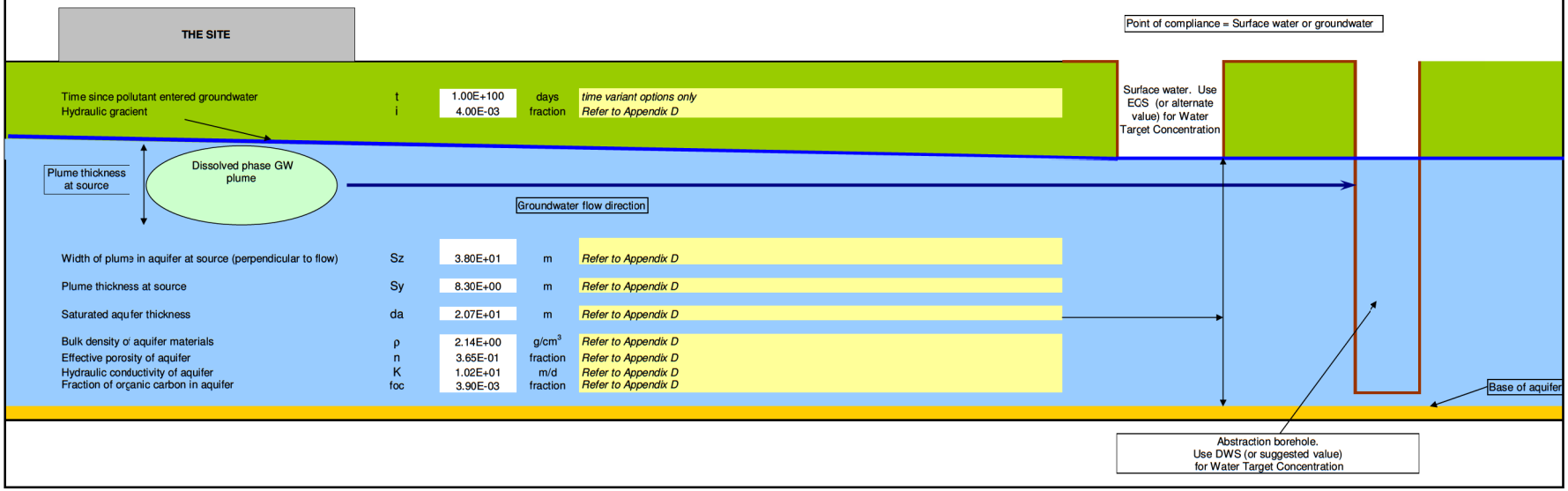
Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23

Version: Sensitivity analysis - hydraulic conductivity (+ an order of magnitude)

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.00E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.80E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E+01	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*



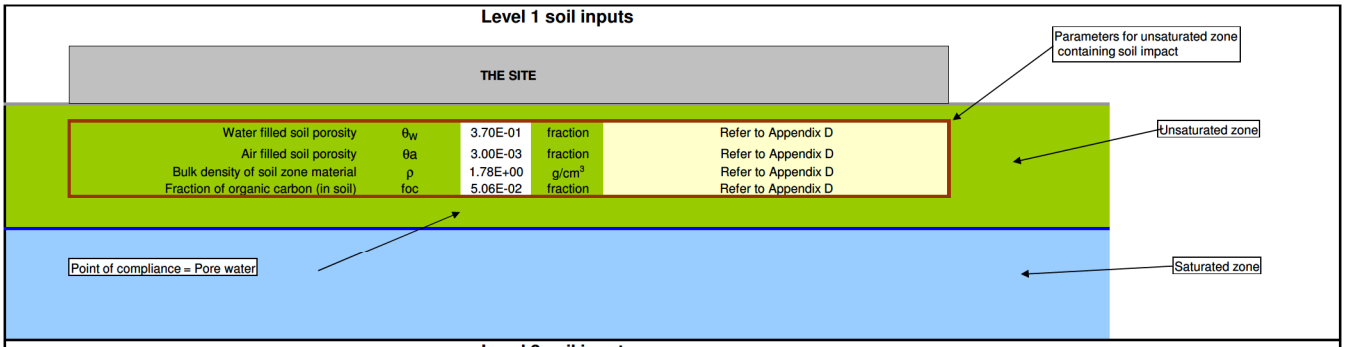
Input Parameters for RTM Worksheets for Controlled Waters Risk Assessr for a Soil Source in the Unsaturated Zone

RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

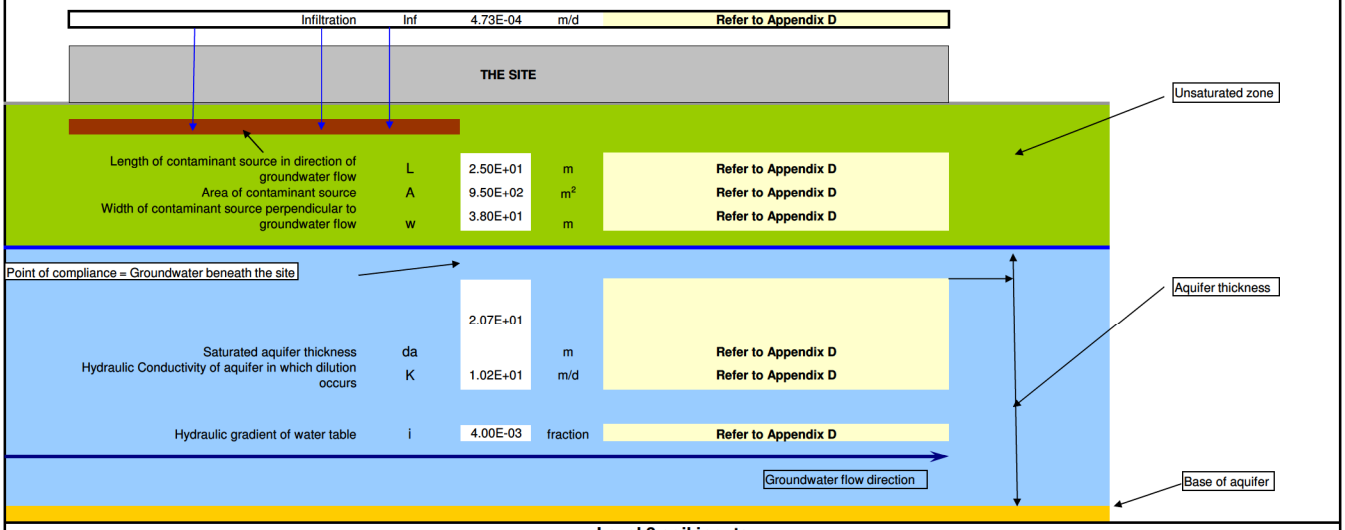
Completed by: Emma Atkinson
Date: 13-Jul-23
Version: Sensitivity analysis - hydraulic conductivity (+ an order of magnitude)

Level 1 soil inputs



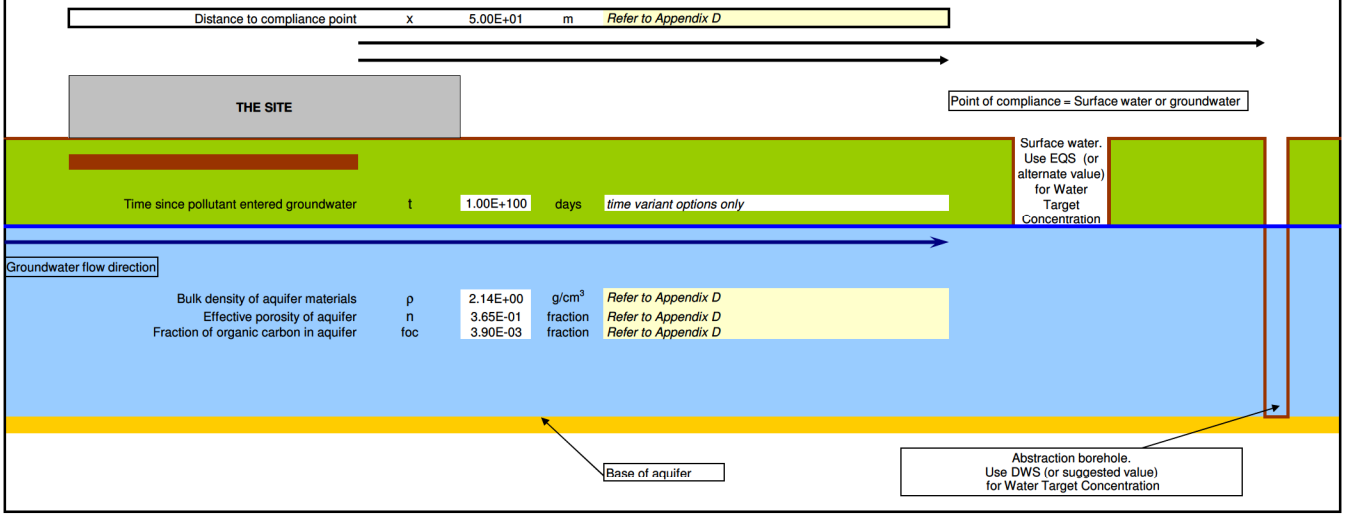
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θa	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Infiltration	Inf	4.73E-04	m/d	**Refer to Appendix D**
Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	**Refer to Appendix D**
Area of contaminant source	A	9.50E+02	m^2	**Refer to Appendix D**
Width of contaminant source perpendicular to groundwater flow	w	3.80E+01	m	**Refer to Appendix D**
Saturated aquifer thickness	da	2.07E+01	m	**Refer to Appendix D**
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E+01	m/d	**Refer to Appendix D**
Hydraulic gradient of water table	i	4.00E-03	fraction	**Refer to Appendix D**

Level 3 soil inputs



Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS **Version:** Sensitivity analysis - hydraulic conductivity (+ an order of magnitude)

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	8.21E-01	1.12E-01	1.07E+00	1.45E-01	1.20E-02	5

Site Name:	**Plot NT02 Dantzic Street**
Site Address:	**Plot NT02 Dantzic Street**

SUMMARY OF RESULTS FROM RTM WORKSHEETS **Version:** **Sensitivity analysis - hydraulic conductivity (+ an order of magnitude)**

TABLE Z		**PREDICTED CONCENTRATION AT POINT OF COMPLIANCE**			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	1.54E-01	1.38E-02	1.06E-02	4.75E-01

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

RSK GEOSCIENCES

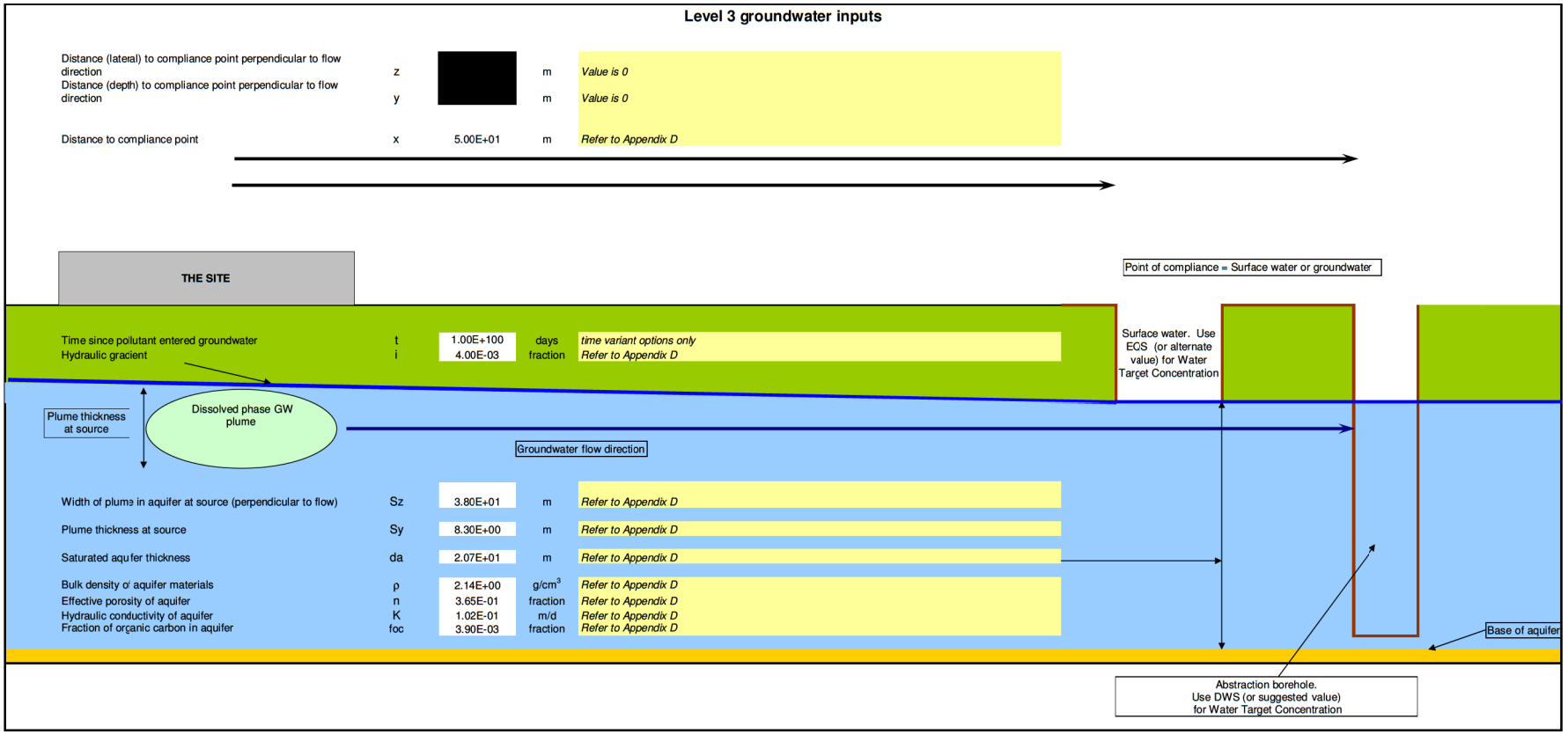
Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23

Version: Sensitivity analysis - hydraulic conductivity (- an order of magnitude)

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.00E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.80E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E-01	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*



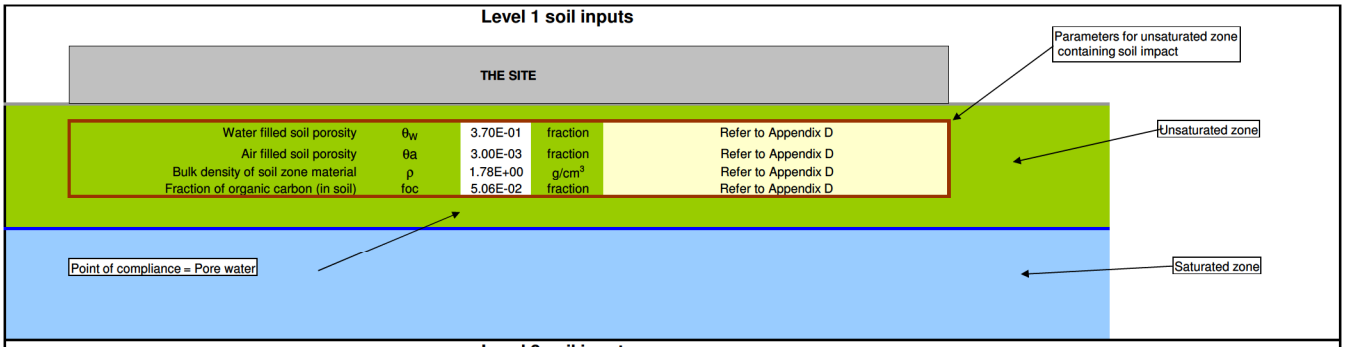
Input Parameters for RTM Worksheets for Controlled Waters Risk Assessr for a Soil Source in the Unsaturated Zone

RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

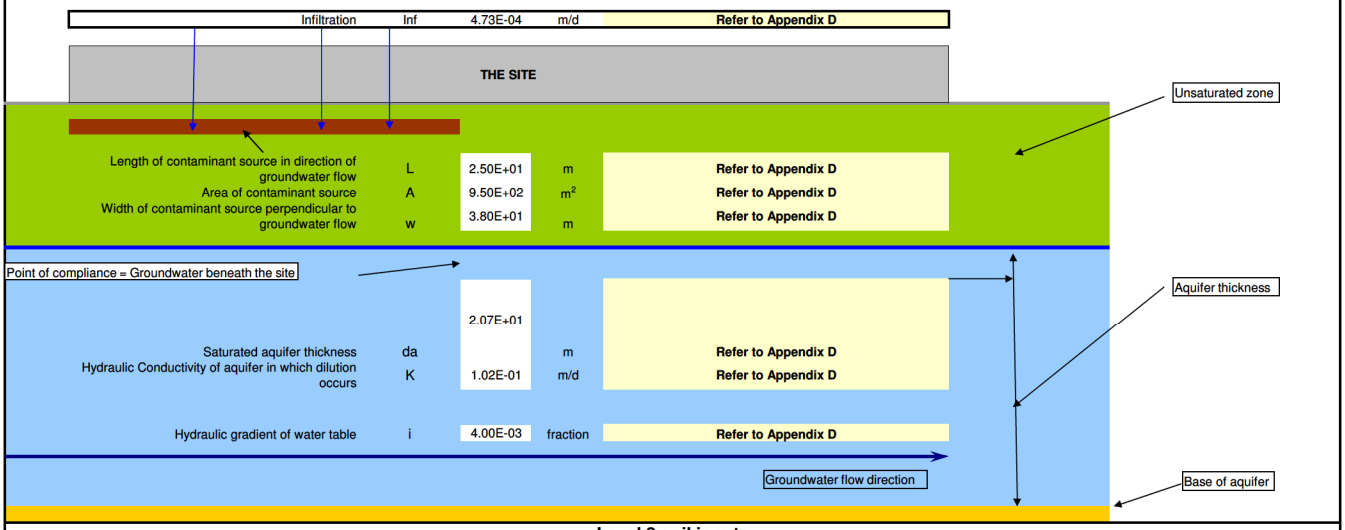
Completed by: Emma Atkinson
Date: 13-Jul-23
Version: Sensitivity analysis - hydraulic conductivity (- an order of magnitude)

Level 1 soil inputs



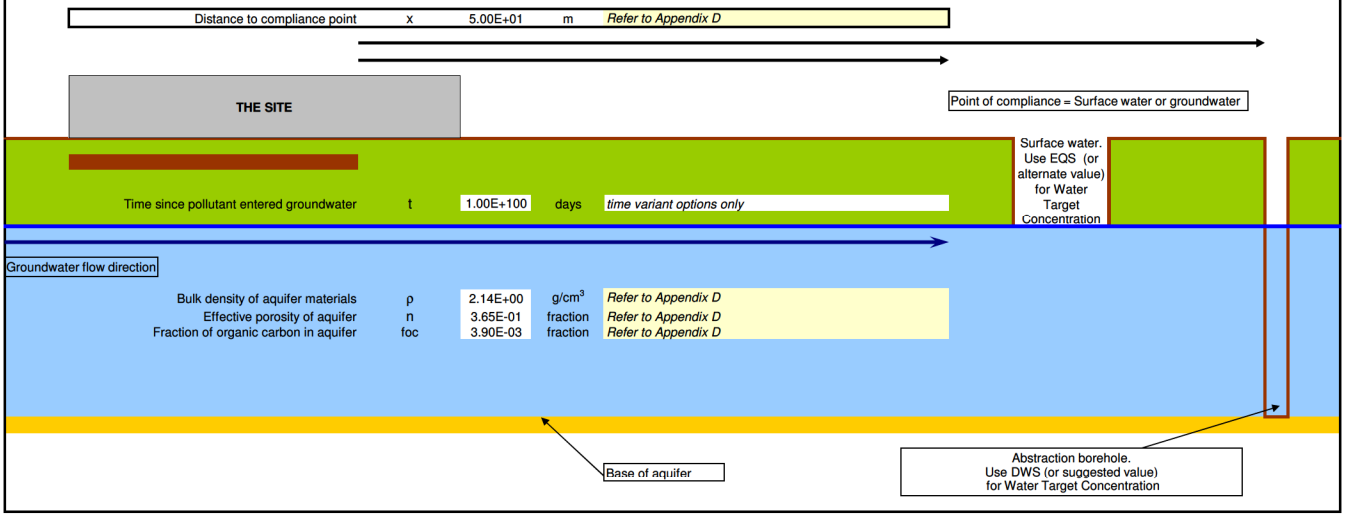
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θa	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Infiltration	Inf	4.73E-04	m/d	**Refer to Appendix D**
Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	**Refer to Appendix D**
Area of contaminant source	A	9.50E+02	m^2	**Refer to Appendix D**
Width of contaminant source perpendicular to groundwater flow	w	3.80E+01	m	**Refer to Appendix D**
Saturated aquifer thickness	da	2.07E+01	m	**Refer to Appendix D**
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E-01	m/d	**Refer to Appendix D**
Hydraulic gradient of water table	i	4.00E-03	fraction	**Refer to Appendix D**

Level 3 soil inputs



Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS Version: Sensitivity analysis - hydraulic conductivity (- an order of magnitude)

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	1.20E-01	1.63E-02	2.63E+01	3.84E+00	7.55E+02	518

Site Name:	**Plot NT02 Dantzic Street**
Site Address:	**Plot NT02 Dantzic Street**

SUMMARY OF RESULTS FROM RTM WORKSHEETS **Version:** **Sensitivity analysis - hydraulic conductivity (- an order of magnitude)**

TABLE Z		**PREDICTED CONCENTRATION AT POINT OF COMPLIANCE**			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	1.54E-01	9.43E-02	4.00E-04	7.58E-06

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

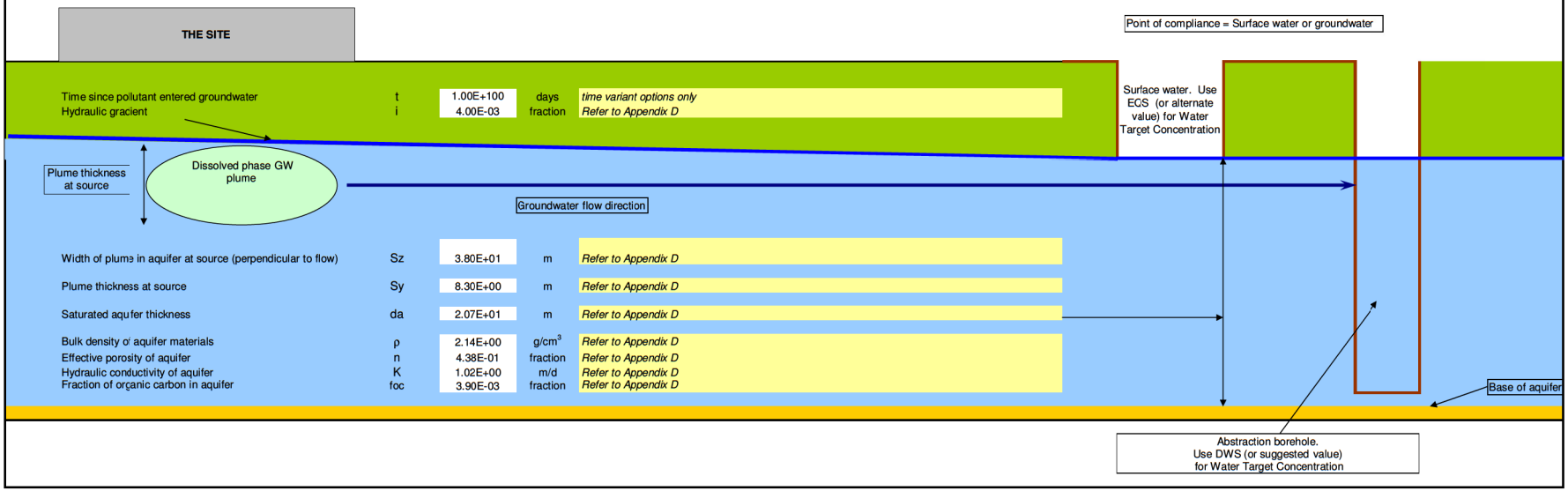
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23
Version: Sensitivity analysis- effective porosity (+ 20%)

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.00E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.80E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	4.38E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E+00	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*



Input Parameters for RTM Worksheets for Controlled Waters Risk Assessr for a Soil Source in the Unsaturated Zone

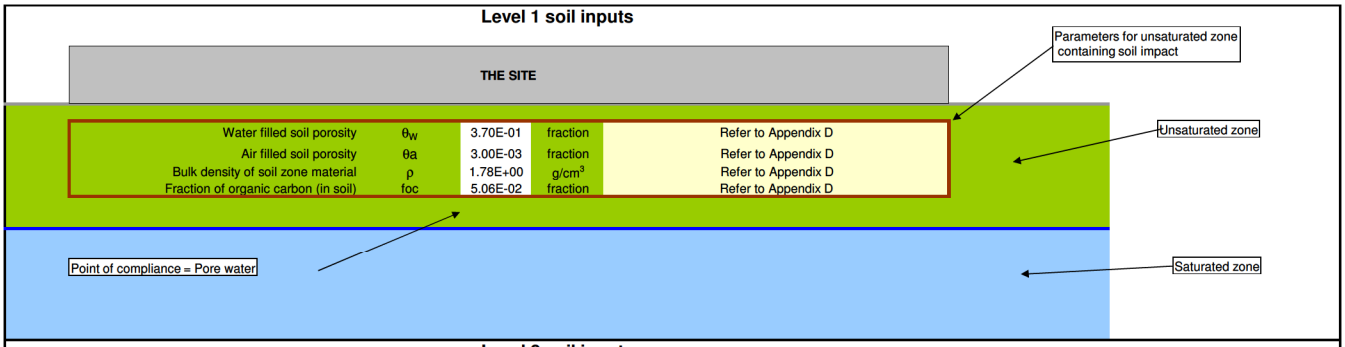
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson

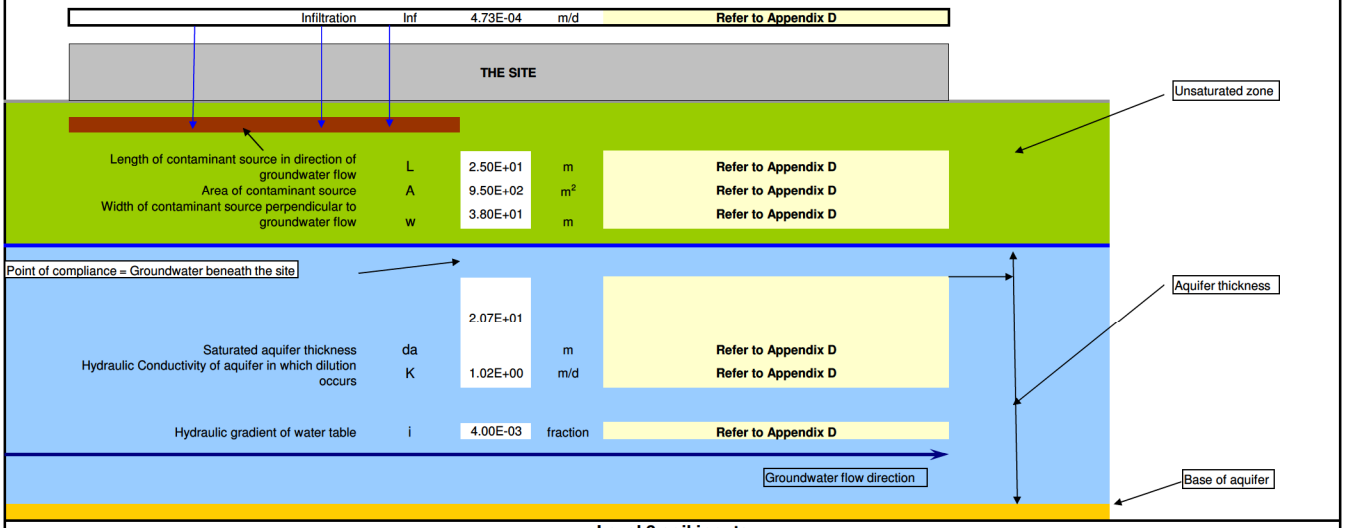
Date: 13-Jul-23 **Version:** Sensitivity analysis- effective porosity (+ 20%)

Level 1 soil inputs



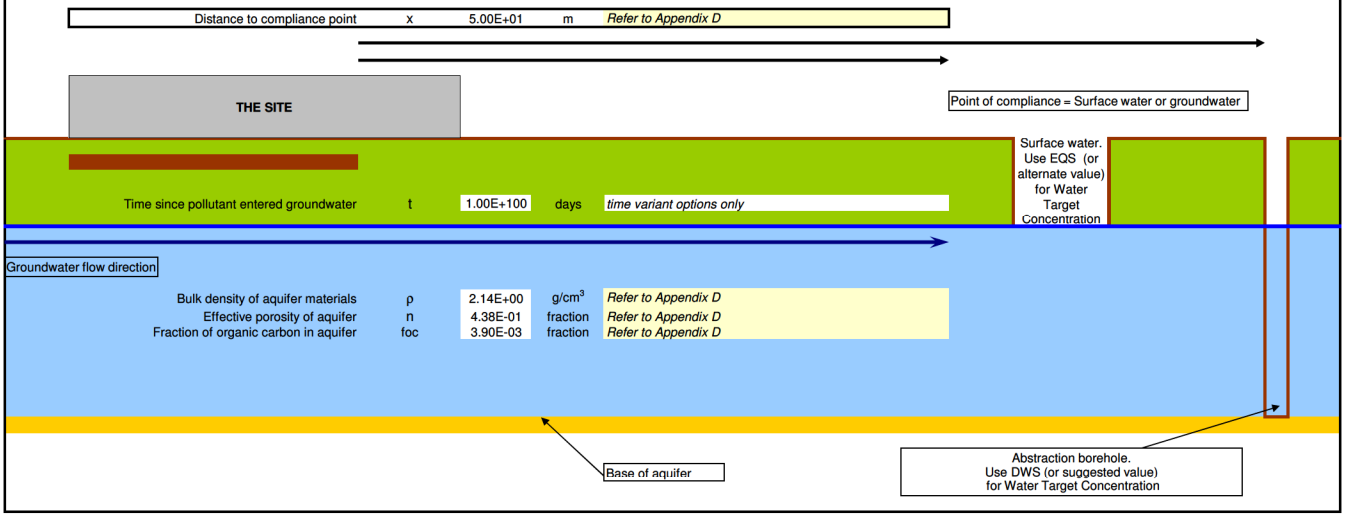
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θa	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Infiltration	Inf	4.73E-04	m/d	**Refer to Appendix D**
Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	**Refer to Appendix D**
Area of contaminant source	A	9.50E+02	m^2	**Refer to Appendix D**
Width of contaminant source perpendicular to groundwater flow	w	3.80E+01	m	**Refer to Appendix D**
Saturated aquifer thickness	da	2.07E+01	m	**Refer to Appendix D**
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E+00	m/d	**Refer to Appendix D**
Hydraulic gradient of water table	i	4.00E-03	fraction	**Refer to Appendix D**

Level 3 soil inputs



Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	4.38E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS Version: Sensitivity analysis- effective porosity (+ 20%)

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	2.10E-01	2.85E-02	8.07E-01	1.10E-01	7.40E-02	54

Site Name:	**Plot NT02 Dantzic Street**				
Site Address:	**Plot NT02 Dantzic Street**				
SUMMARY OF RESULTS FROM RTM WORKSHEETS			**Version:**	**Sensitivity analysis- effective porosity (+ 20%)**	
TABLE Z		**PREDICTED CONCENTRATION AT POINT OF COMPLIANCE**			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	1.54E-01	5.39E-02	1.40E-02	7.73E-02

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

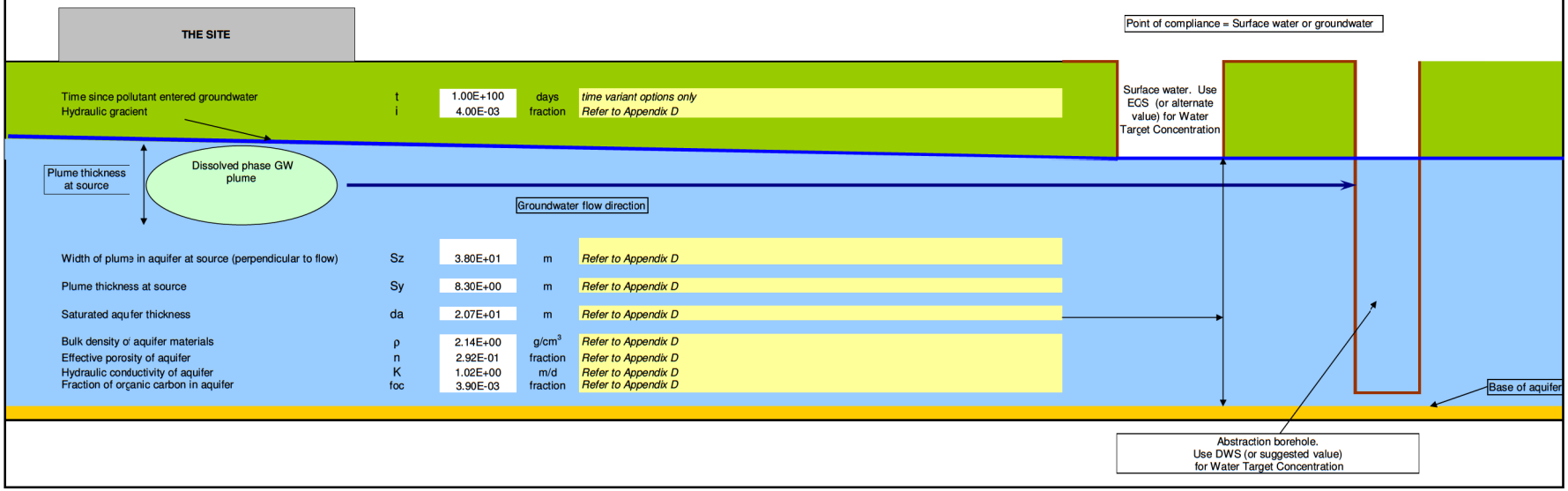
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23
Version: Sensitivity analysis- effective porosity (- 20%)

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.00E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.80E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	2.92E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E+00	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*



Input Parameters for RTM Worksheets for Controlled Waters Risk Assessr for a Soil Source in the Unsaturated Zone

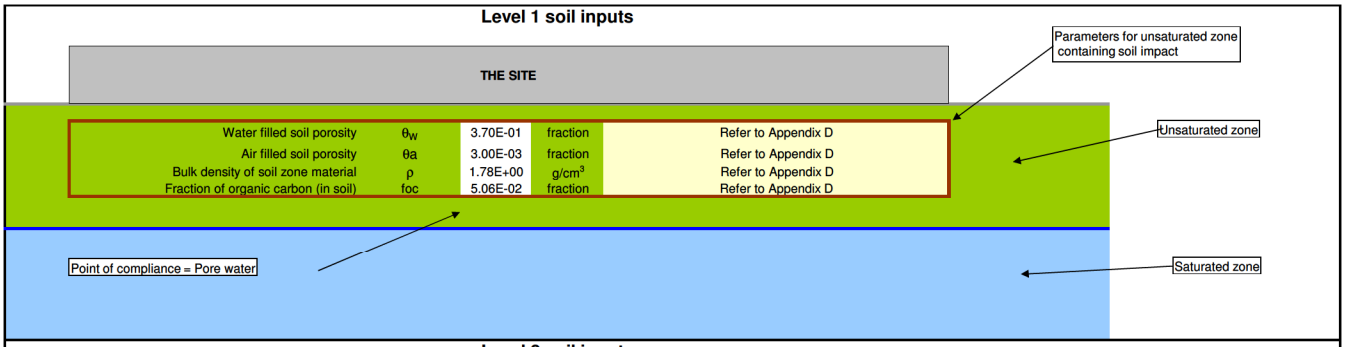
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson

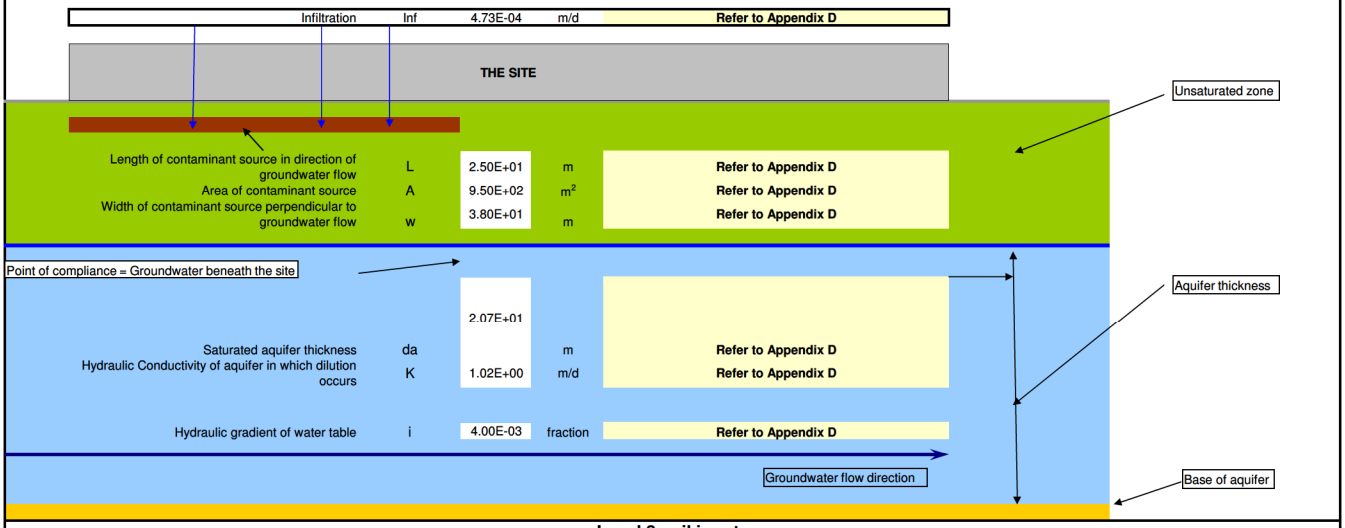
Date: 13-Jul-23 **Version:** Sensitivity analysis- effective porosity (- 20%)

Level 1 soil inputs



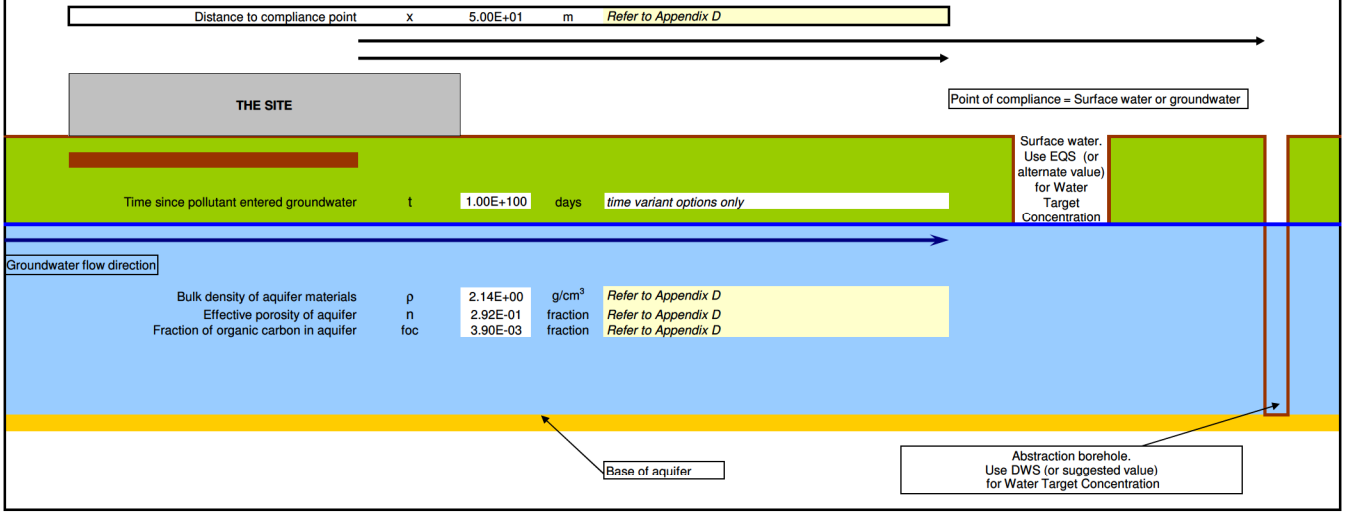
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θa	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Infiltration	Inf	4.73E-04	m/d	**Refer to Appendix D**
Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	**Refer to Appendix D**
Area of contaminant source	A	9.50E+02	m^2	**Refer to Appendix D**
Width of contaminant source perpendicular to groundwater flow	w	3.80E+01	m	**Refer to Appendix D**
Saturated aquifer thickness	da	2.07E+01	m	**Refer to Appendix D**
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E+00	m/d	**Refer to Appendix D**
Hydraulic gradient of water table	i	4.00E-03	fraction	**Refer to Appendix D**

Level 3 soil inputs



Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	2.92E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS Version: Sensitivity analysis- effective porosity (- 20%)

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	2.10E-01	2.85E-02	5.27E-01	7.16E-02	3.98E-02	49

Site Name:	**Plot NT02 Dantzic Street**				
Site Address:	**Plot NT02 Dantzic Street**				
SUMMARY OF RESULTS FROM RTM WORKSHEETS			**Version:**	**Sensitivity analysis- effective porosity (- 20%)**	
TABLE Z		**PREDICTED CONCENTRATION AT POINT OF COMPLIANCE**			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	1.54E-01	5.39E-02	2.14E-02	1.44E-01

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

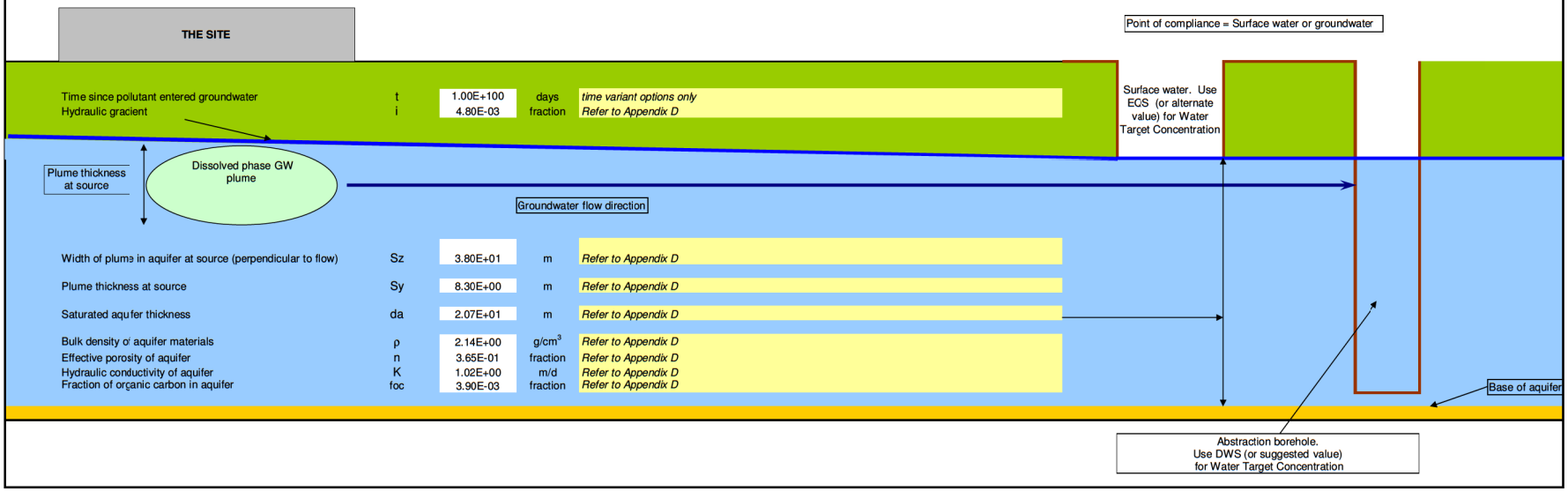
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23
Version: Sensitivity analysis- Hydraulic gradient (+ 20%)

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.80E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.80E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E+00	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*



Input Parameters for RTM Worksheets for Controlled Waters Risk Assessr for a Soil Source in the Unsaturated Zone

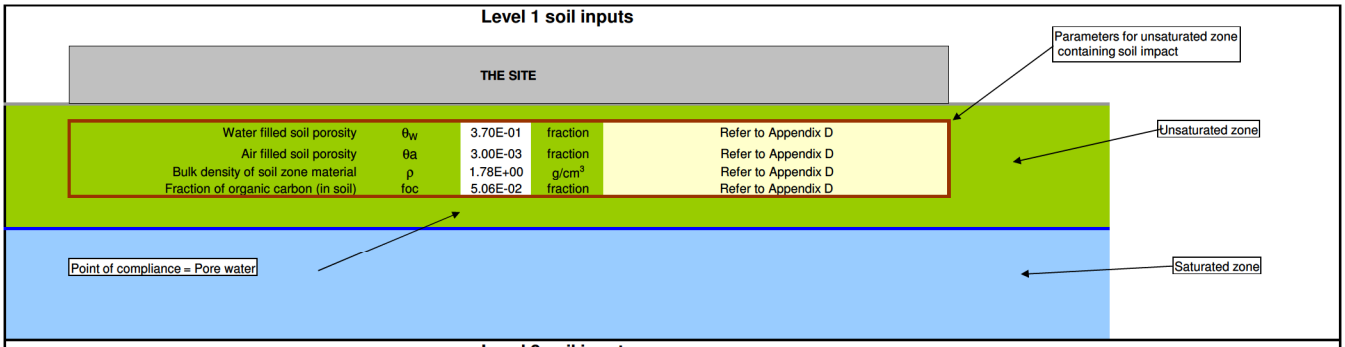
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23 **Version:**)

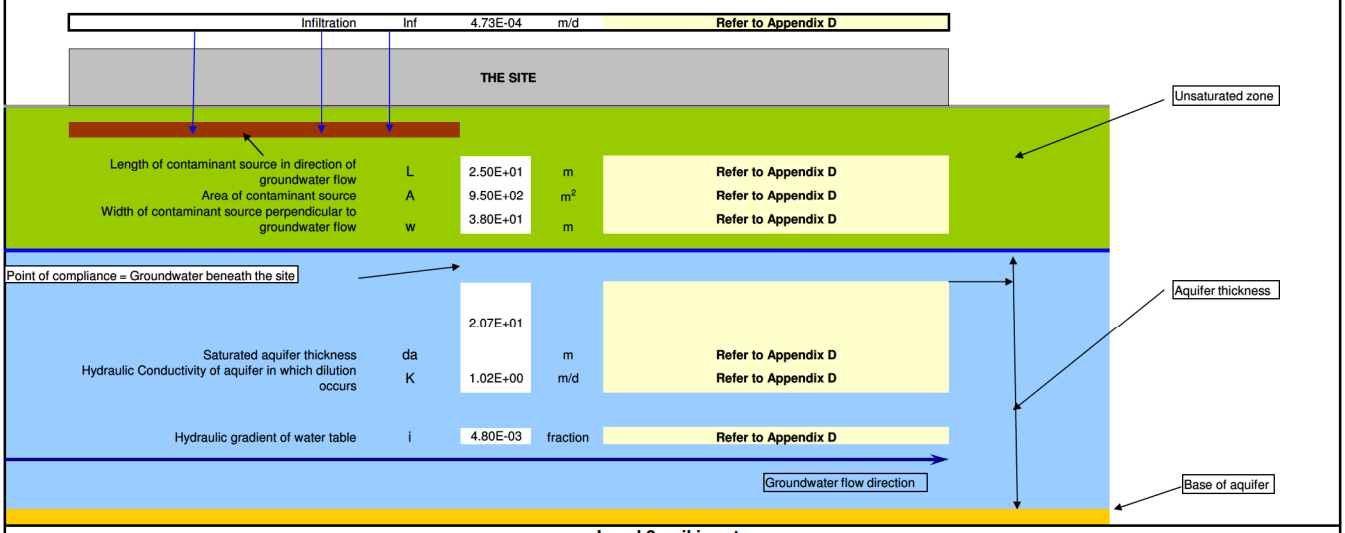
Sensitivity analysis- Hydraulic gradient (+ 20%

Level 1 soil inputs



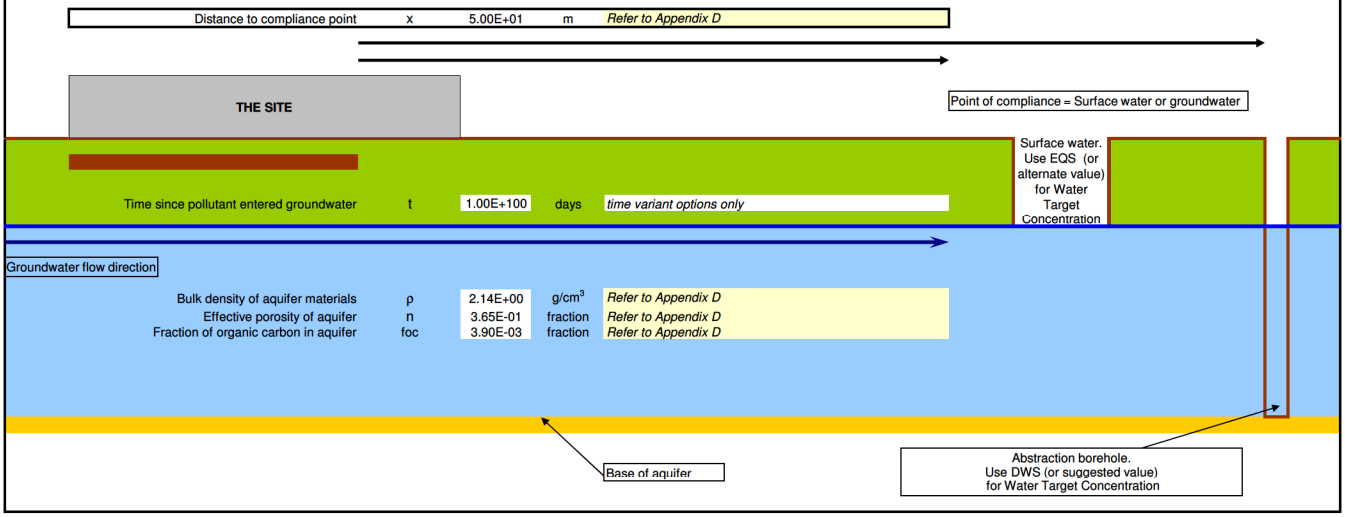
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θa	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Infiltration	Inf	4.73E-04	m/d	**Refer to Appendix D**
Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	**Refer to Appendix D**
Area of contaminant source	A	9.50E+02	m^2	**Refer to Appendix D**
Width of contaminant source perpendicular to groundwater flow	w	3.80E+01	m	**Refer to Appendix D**
		2.07E+01		
Saturated aquifer thickness	da		m	**Refer to Appendix D**
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E+00	m/d	**Refer to Appendix D**
Hydraulic gradient of water table	i	4.80E-03	fraction	**Refer to Appendix D**

Level 3 soil inputs



Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS Version: Sensitivity analysis- Hydraulic gradient (+ 20%)

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	2.24E-01	3.04E-02	6.03E-01	8.21E-02	4.19E-02	43

Site Name:	**Plot NT02 Dantzic Street**				
Site Address:	**Plot NT02 Dantzic Street**				
SUMMARY OF RESULTS FROM RTM WORKSHEETS			**Version:**	**Sensitivity analysis- Hydraulic gradient (+ 20%)**	
TABLE Z		**PREDICTED CONCENTRATION AT POINT OF COMPLIANCE**			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	1.54E-01	5.05E-02	1.87E-02	1.36E-01

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

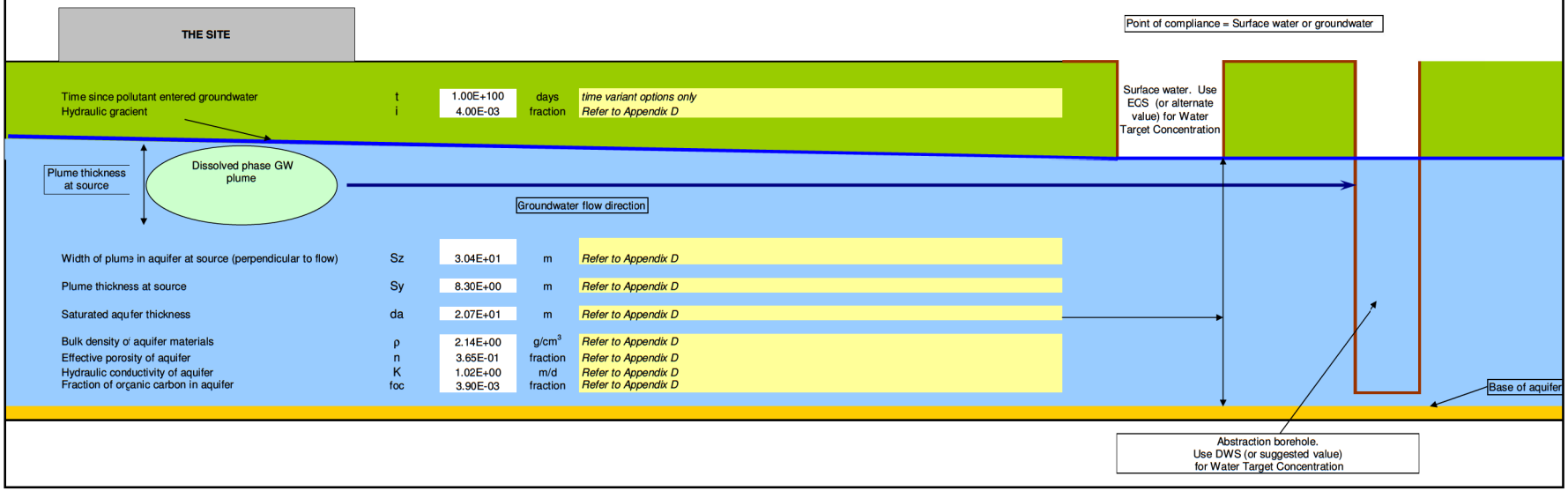
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23
Version: Sensitivity analysis- width of source (- 20%)

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.00E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.04E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E+00	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*



Input Parameters for RTM Worksheets for Controlled Waters Risk Assessr for a Soil Source in the Unsaturated Zone

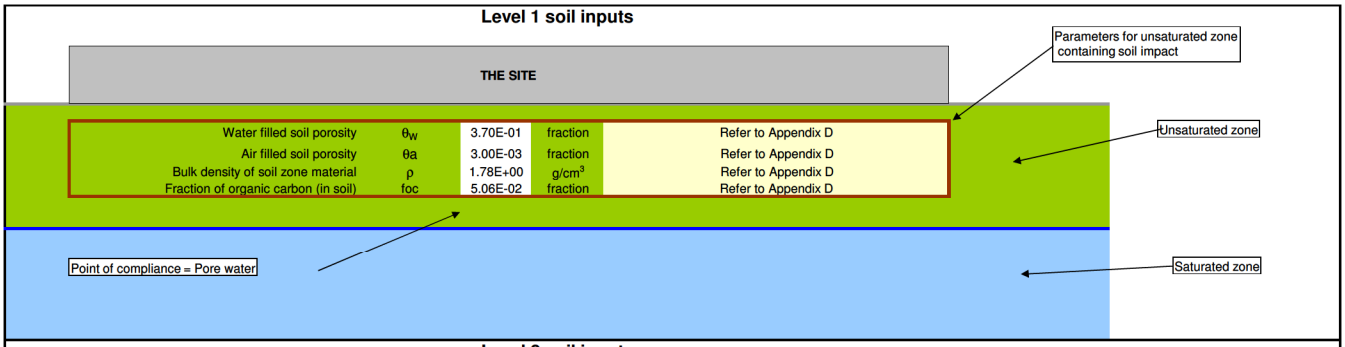
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson

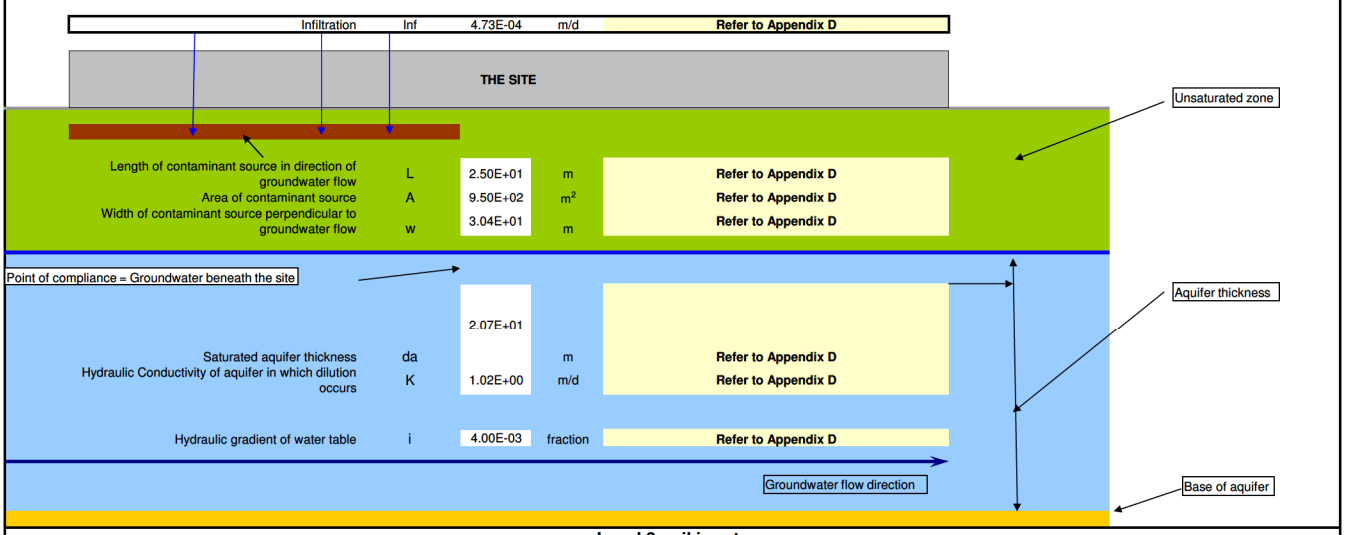
Date: 13-Jul-23 **Version:** Sensitivity analysis- width of source (- 20%)

Level 1 soil inputs



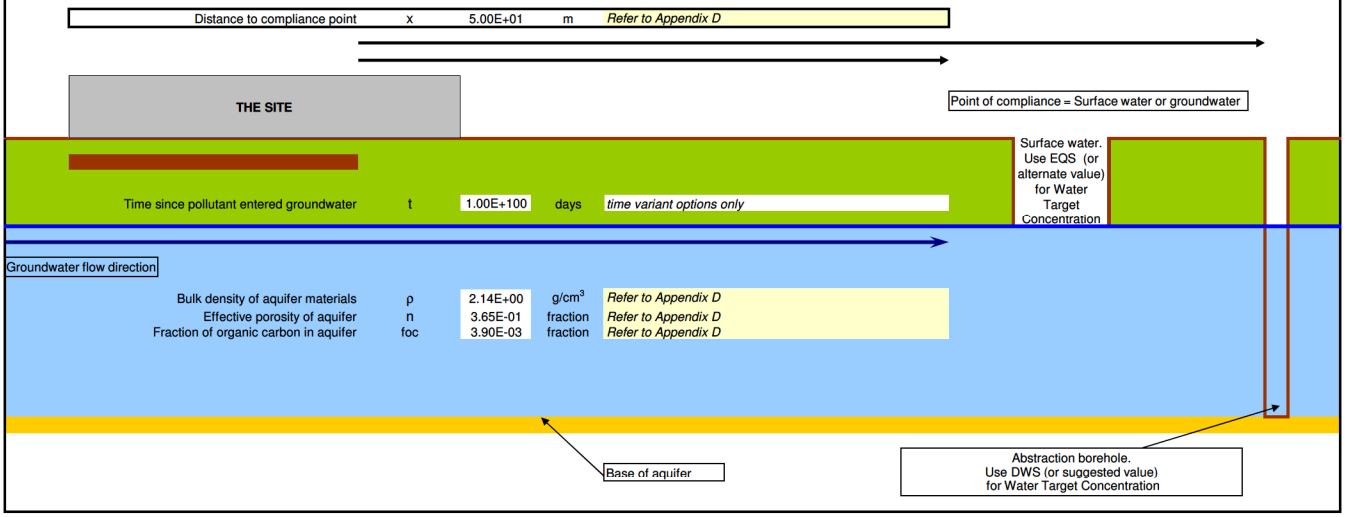
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θa	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Infiltration	Inf	4.73E-04	m/d	**Refer to Appendix D**
Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	**Refer to Appendix D**
Area of contaminant source	A	9.50E+02	m^2	**Refer to Appendix D**
Width of contaminant source perpendicular to groundwater flow	w	3.04E+01	m	**Refer to Appendix D**
		2.07E+01		
Saturated aquifer thickness	da		m	**Refer to Appendix D**
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E+00	m/d	**Refer to Appendix D**
Hydraulic gradient of water table	i	4.00E-03	fraction	**Refer to Appendix D**

Level 3 soil inputs



Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS Version: Sensitivity analysis- width of source (- 20%)

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	2.10E-01	2.85E-02	6.57E-01	8.94E-02	5.48E-02	52

Site Name:	**Plot NT02 Dantzic Street**				
Site Address:	**Plot NT02 Dantzic Street**				
SUMMARY OF RESULTS FROM RTM WORKSHEETS			**Version:**	**Sensitivity analysis- width of source (- 20%)**	
TABLE Z		**PREDICTED CONCENTRATION AT POINT OF COMPLIANCE**			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	1.54E-01	5.39E-02	1.72E-02	1.04E-01

Site Name:	Plot NT02 Dantzic Street	Completed by: Emma Atkinson									Site Name:	Plot NT02 Dantzic Street	Completed by: Emma Atkinson					
Site Address:	Plot NT02 Dantzic Street	Date: 13-Jul-23									Site Address:	Plot NT02 Dantzic Street	Date: 13-Jul-23					
SITE SPECIFIC INPUTS FOR INDIVIDUAL SUBSTANCES		Version: Sensitivity analysis degradation rates anaerobic									Table X		Version: Sensitivity analysis degradation rates anaerobic					
Table W		Soil Source for Impact on Groundwater						Groundwater Source (Level 3 Groundwater)			SUBSTANCE SPECIFIC INPUTS FOR INDIVIDUAL SUBSTANCES							
Contaminant	Target Concentration (CT) mg/l	Origin of CT:	Soil concentration for Level 3 soil sheet and soil impact results sheet (mg/kg)	Comment on soil source concentrations for Level 3 soil sheet and soil impact results	Option: Concentration of contaminant in contaminated discharge entering receptor (mg/l)	Comment on concentration of contaminant in contaminated discharge (entering receptor)	Option: Background concentration of contaminant in groundwater beneath site (mg/l)	Justification of background concentration of contaminant in groundwater beneath site	Initial contaminant concentration in groundwater at plume core (mg/l)	Comment on groundwater source concentrations	Contaminant	Organic carbon partition coefficient (Koc)	Source of Koc	Henry's Law constant (dimensionless)	Source of Henry's Law	Half life for degradation of contaminant in water (d)	Source of Half Life - Howard et al 1991, Handbook of Environmental Degradation Rates and CHNSM
Trichloroethene (TCE)	**0.01**	**Drinking Water Standards (DWS)**	1.13	Maximum concentration (WS308at 1.00 m bgl on 03/04/2023)	0.00E+00	Comment	0.00E+00	Assume background water not impacted	0.572	Maximum concentration (RBH203 on 04/10/2022)	**Trichloroethene (TCE)**	1.41E+02	SR7	1.87E-01	SR7	3.21E+02	*Howard et al low half life (anaerobic conditions)*

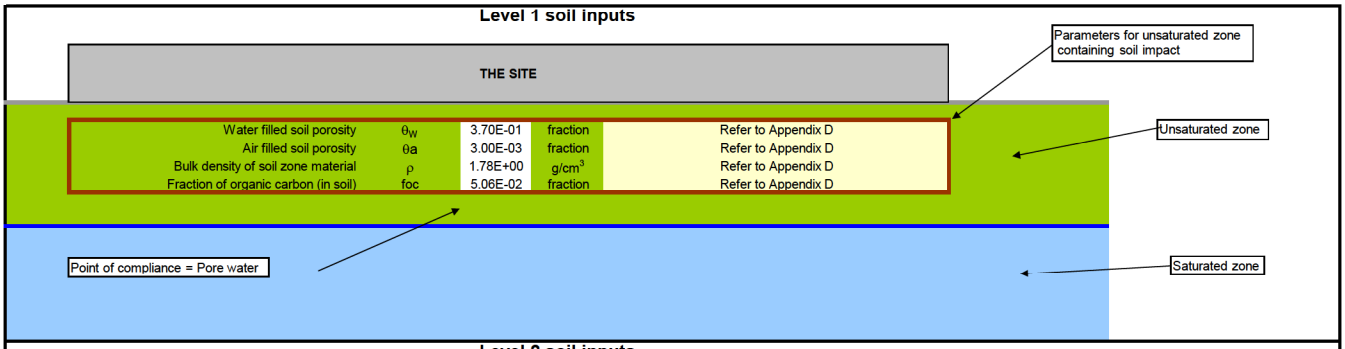
Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Soil Source in the Unsaturated Zone

RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

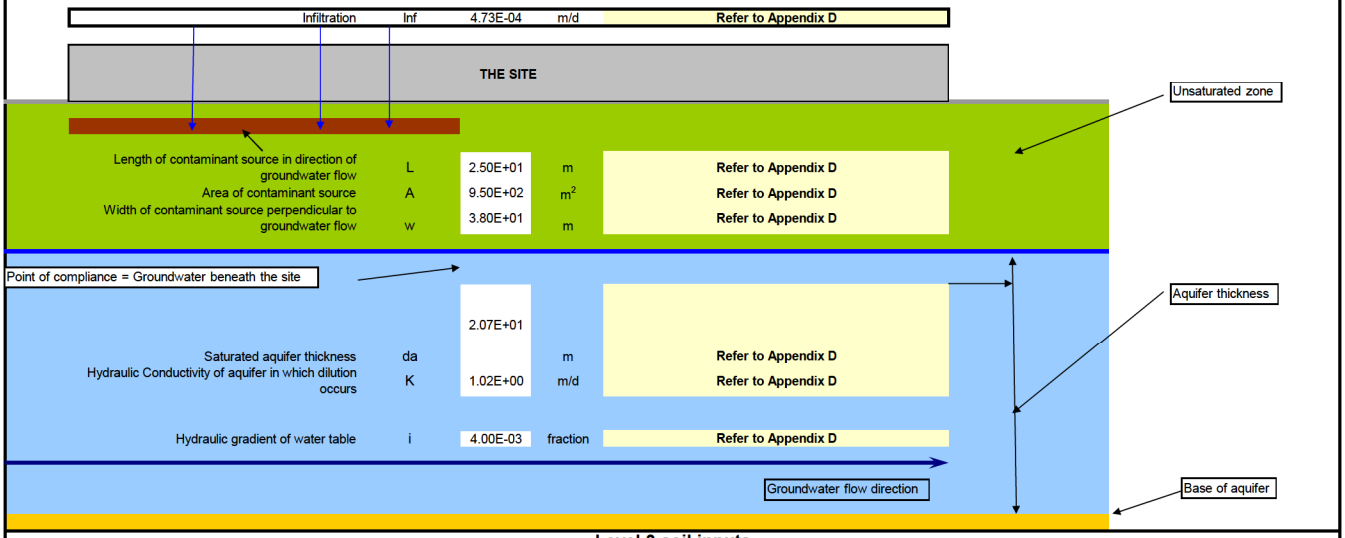
Completed by: Emma Atkinson
Date: 13-Jul-23 **Version:** Sensitivity analysis degradation rates

Level 1 soil inputs



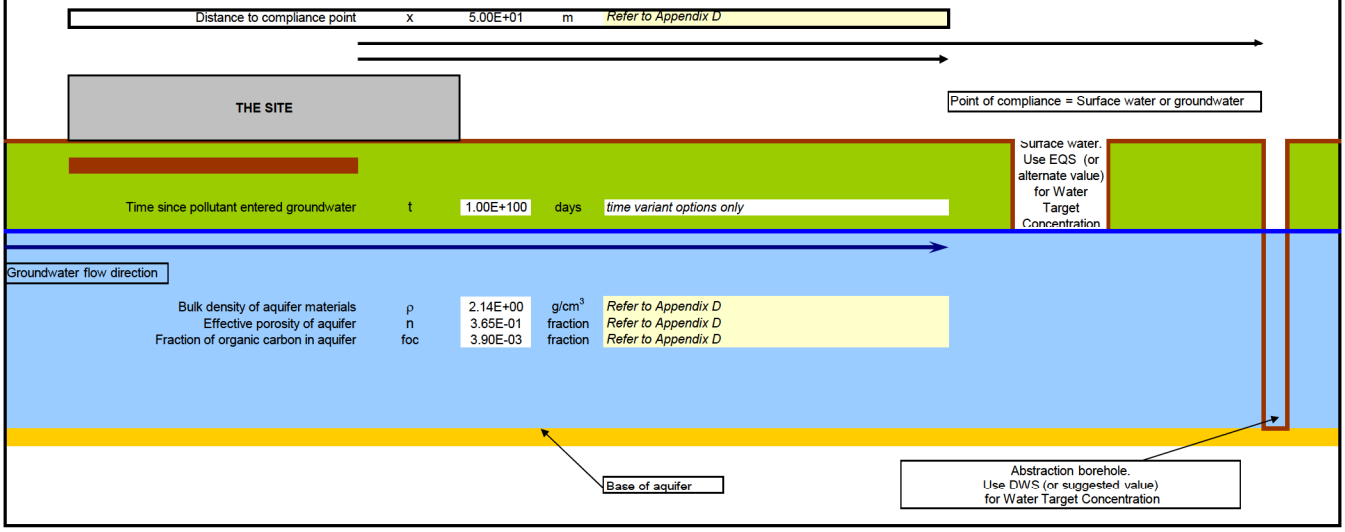
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θ_a	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Infiltration	Inf	4.73E-04	m/d	Refer to Appendix D
Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	Refer to Appendix D
Area of contaminant source	A	9.50E+02	m^2	Refer to Appendix D
Width of contaminant source perpendicular to groundwater flow	w	3.80E+01	m	Refer to Appendix D
		2.07E+01		
Saturated aquifer thickness	da		m	Refer to Appendix D
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E+00	m/d	Refer to Appendix D
Hydraulic gradient of water table	i	4.00E-03	fraction	Refer to Appendix D

Level 3 soil inputs



Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

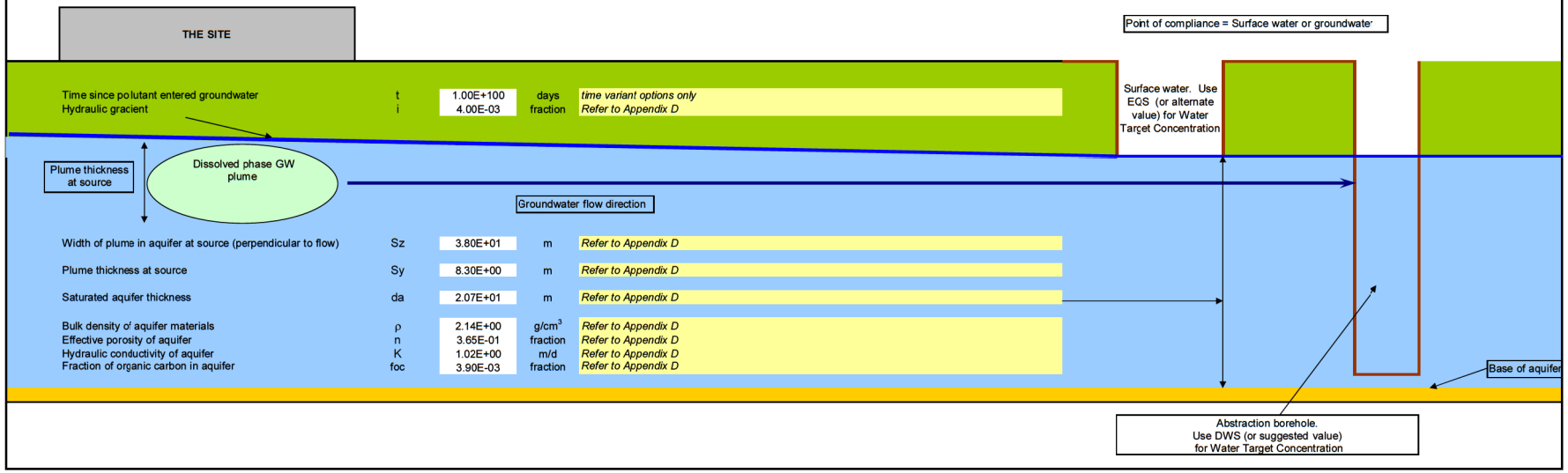
RSK GEOSCIENCES

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23 **Version:** Sensitivity analysis degradation rates anaerobic

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*
Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.00E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.80E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E+00	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*



Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS Version: Sensitivity analysis degradation rates anaerobic

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	2.10E-01	2.85E-02	2.66E+01	3.62E+00	9.26E+00	52

RSK GEOSCIENCES

Site Name:	**Plot NT02 Dantzic Street**
Site Address:	**Plot NT02 Dantzic Street**

SUMMARY OF RESULTS FROM RTM WORKSHEETS **Version:** **Sensitivity analysis degradation rates anaerobic**

TABLE Z		**PREDICTED CONCENTRATION AT POINT OF COMPLIANCE**			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	1.54E-01	5.39E-02	4.24E-04	6.18E-04

APPENDIX G
MODEL CALIBRATION

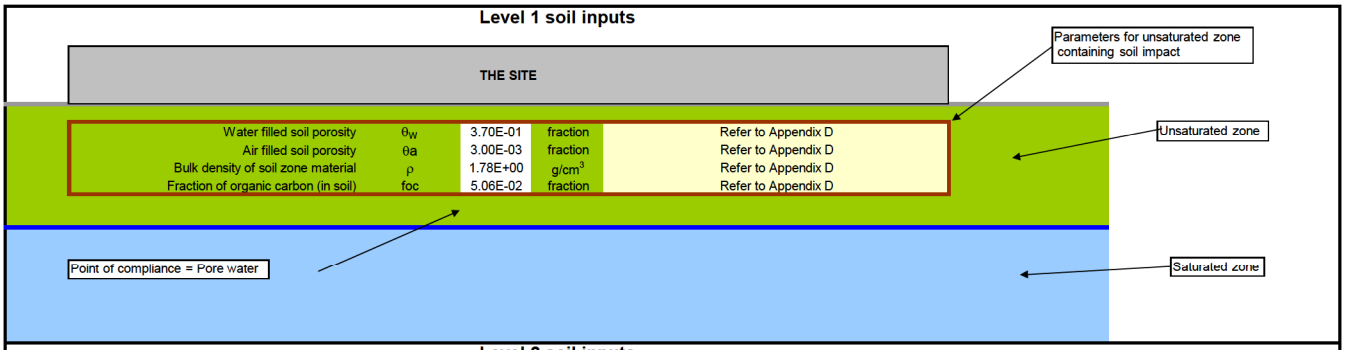
Site Name:	Plot NT02 Dantzic Street	Completed by: Emma Atkinson									Site Name:	Plot NT02 Dantzic Street	Completed by: Emma Atkinson					
Site Address:	Plot NT02 Dantzic Street	Date: 13-Jul-23									Site Address:	Plot NT02 Dantzic Street	Date: 13-Jul-23					
SITE SPECIFIC INPUTS FOR INDIVIDUAL SUBSTANCES							Version: Model calibration check RBH203 to LKBH01 19/01/2023				Table X		Version: Model calibration check RBH203 to LKBH01 19/01/2023					
Table W			Soil Source for Impact on Groundwater						Groundwater Source (Level 3 Groundwater)		SUBSTANCE SPECIFIC INPUTS FOR INDIVIDUAL SUBSTANCES							
Contaminant	Target Concentration (CT) mg/l	Origin of CT:	Soil concentration for Level 3 soil sheet and soil impact results sheet (mg/kg)	Comment on soil source concentrations for Level 3 soil sheet and soil impact results	Option: Concentration of contaminant in contaminated discharge entering receptor (mg/l)	Comment on concentration of contaminant in contaminated discharge (entering receptor)	Option: Background concentration of contaminant in groundwater beneath site (mg/l)	Justification of background concentration of contaminant in groundwater beneath site	Initial contaminant concentration in groundwater at plume core (mg/l)	Comment on groundwater source concentrations	Contaminant	Organic carbon partition coefficient (Koc)	Source of Koc	Henry's Law constant (dimensionless)	Source of Henry's Law	Half life for degradation of contaminant in water (d)	Source of Half Life - Howard et al 1991, Handbook of Environmental Degradation Rates and CONSIM
Trichloroethene (TCE)	**0.01**	**Drinking Water Standards (DWS)**	0	NA	0.00E+00	Comment	0.00E+00	Assume background water not impacted	0418	RBH203 on 19/01/2023	**Trichloroethene (^CE)**	1.41E+02	SR7	1.87E-01	SR7	1.65E+03	*Howard et al high half life (aeraic conditions)*

Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Soil Source in the Unsaturated Zone

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

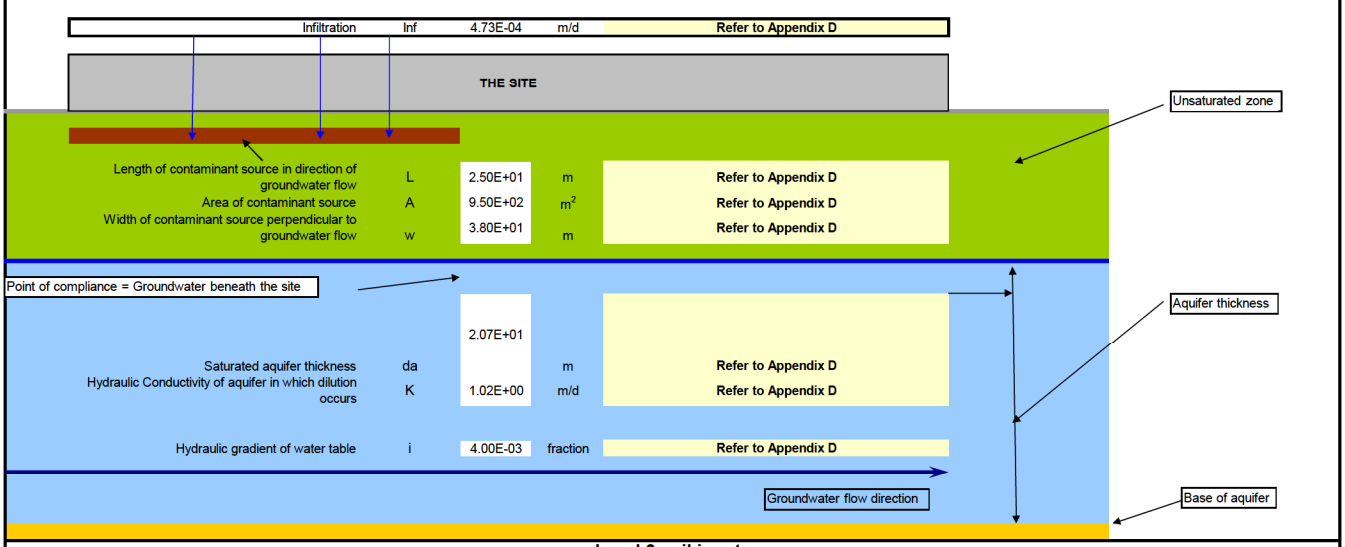
Completed by: Emma Atkinson
Date: 13-Jul-23
Version: Model calibration check RBH203 to LKBH01 19/01/2023

Level 1 soil inputs



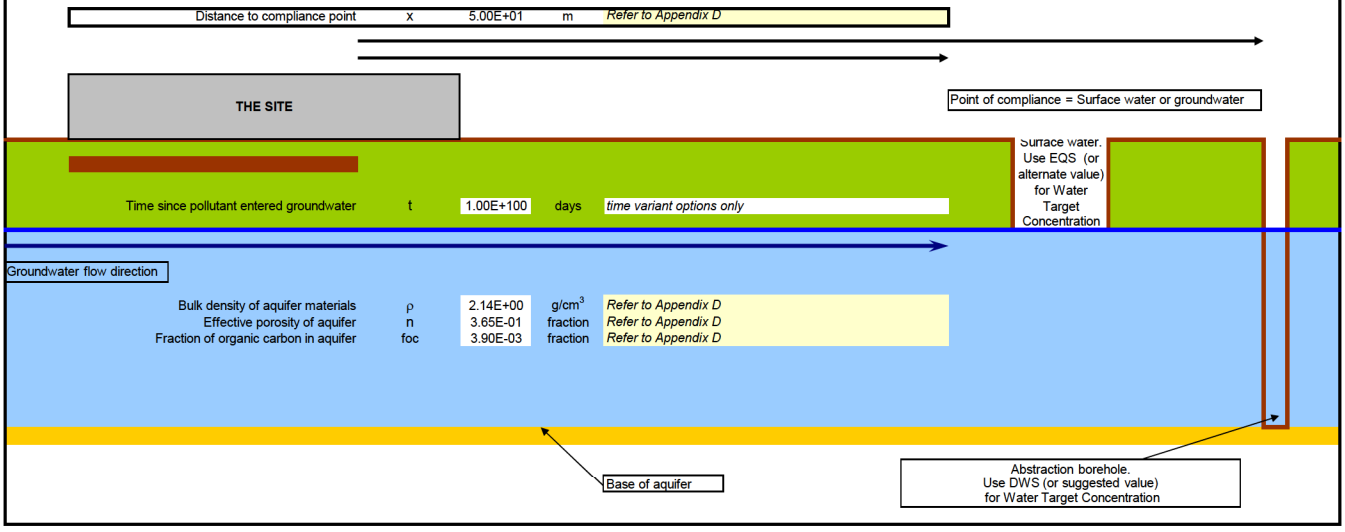
Water filled soil porosity	θ_w	3.70E-01	fraction	Refer to Appendix D
Air filled soil porosity	θa	3.00E-03	fraction	Refer to Appendix D
Bulk density of soil zone material	ρ	1.78E+00	g/cm^3	Refer to Appendix D
Fraction of organic carbon (in soil)	foc	5.06E-02	fraction	Refer to Appendix D

Level 2 soil inputs



Length of contaminant source in direction of groundwater flow	L	2.50E+01	m	Refer to Appendix D
Area of contaminant source	A	9.50E+02	m^2	Refer to Appendix D
Width of contaminant source perpendicular to groundwater flow	w	3.80E+01	m	Refer to Appendix D
Saturated aquifer thickness	da	2.07E+01	m	Refer to Appendix D
Hydraulic Conductivity of aquifer in which dilution occurs	K	1.02E+00	m/d	Refer to Appendix D
Hydraulic gradient of water table	i	4.00E-03	fraction	Refer to Appendix D

Level 3 soil inputs



Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

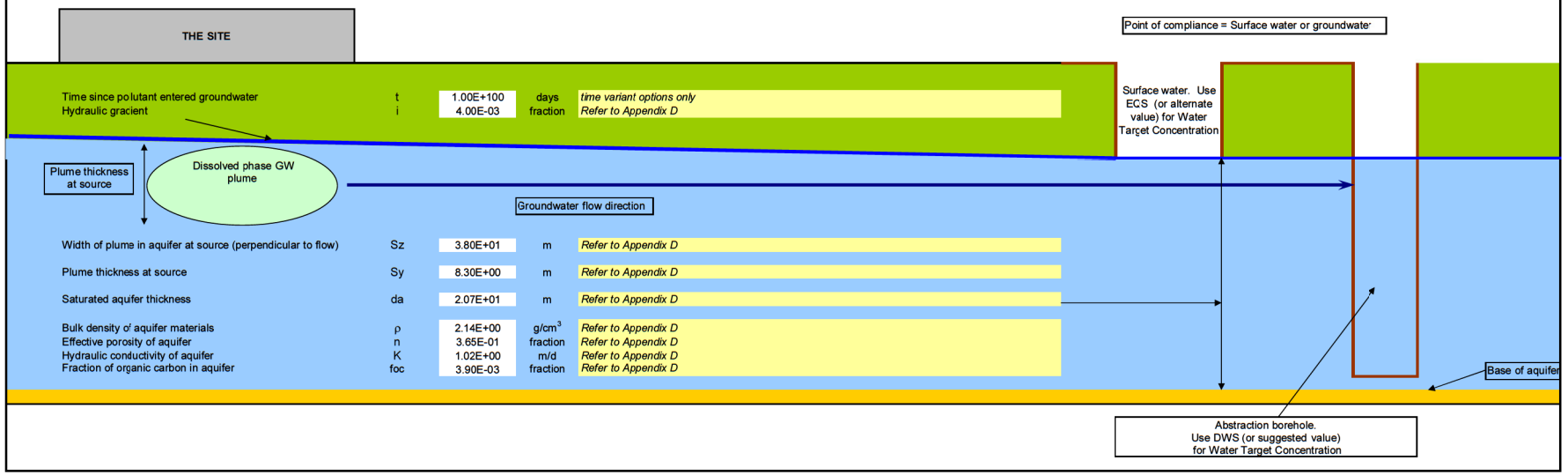
Input Parameters for RTM Worksheets for Controlled Waters Risk Assessment for a Dissolved Phase Source in Groundwater

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

Completed by: Emma Atkinson
Date: 13-Jul-23 **Version:** Model calibration check RBH203 to LKBH01 19/01/2023

Level 3 groundwater inputs

Distance (lateral) to compliance point perpendicular to flow direction	z	[redacted]	m	*Value is 0*
Distance (depth) to compliance point perpendicular to flow direction	y		m	*Value is 0*
Distance to compliance point	x	5.00E+01	m	*Refer to Appendix D*



Time since pollutant entered groundwater	t	1.00E+100	days	*time variant options only*
Hydraulic gradient	i	4.00E-03	fraction	*Refer to Appendix D*
Width of plume in aquifer at source (perpendicular to flow)	Sz	3.80E+01	m	*Refer to Appendix D*
Plume thickness at source	Sy	8.30E+00	m	*Refer to Appendix D*
Saturated aquifer thickness	da	2.07E+01	m	*Refer to Appendix D*
Bulk density of aquifer materials	ρ	2.14E+00	g/cm^3	*Refer to Appendix D*
Effective porosity of aquifer	n	3.65E-01	fraction	*Refer to Appendix D*
Hydraulic conductivity of aquifer	K	1.02E+00	m/d	*Refer to Appendix D*
Fraction of organic carbon in aquifer	foc	3.90E-03	fraction	*Refer to Appendix D*

Site Name: Plot NT02 Dantzic Street
Site Address: Plot NT02 Dantzic Street

SUMMARY OF RESULTS FROM RTM WORKSHEETS Version: Model calibration check RBH203 to LKBH01 19/01/2023

TABLE Y		Remedial Targets for a Soil Source (soil & pore water concentrations)						Groundwater Source	Groundwater Source
Contaminant	Target Concentration (C_T) mg/l	Level 1 Remedial Target (soil concentrations) (mg/kg)	Level 1 Remedial Target (pore water and leachate) (mg/l)	Level 2 Remedial Target (soil concentrations) (mg/kg)	Level 2 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (soil concentrations) (mg/kg)	Level 3 Remedial Target (pore water and leachate) (mg/l)	Level 3 Remedial Target (groundwater concentrations) (mg/l)	Time for contaminant to reach receptor (years)
Trichloroethene (TCE)	0.01	7.35E-02	0.01	2.10E-01	2.85E-02	6.54E-01	8.89E-02	5.45E-02	52

Site Name:	**Plot NT02 Dantzic Street**	**Version:**	**Model calibration check RBH203 to LKBH01 19/01/2023**
Site Address:	**Plot NT02 Dantzic Street**		

SUMMARY OF RESULTS FROM RTM WORKSHEETS

TABLE Z		PREDICTED CONCENTRATION AT POINT OF COMPLIANCE			
Contaminant	**Target Concentration (C_T) mg/l**	**Level 1 Soil Impact (mg/l)**	**Level 2 Soil Impact mg/l)**	**Level 3 Soil Impact (mg/l)**	**Level 3 Groundwater Impact (mg/l)**
Trichloroethene (TCE)	0.01	0.00E+00	0.00E+00	0.00E+00	7.67E-02

Comparison of RTVs against measured concentrations in groundwater

COPC	Lab sample ID	22/09651/12	22/09651/13	22/09831/2	22/08782/1	22/08782/2	23/04296/7	23/04477/5	23/00479/2	23/00479/3	23/04510/2	22/09651/1	22/09651/2	22/09651/3	22/09651/4	22/09651/5	22/09831/1	23/00479/1	23/04296/6	23/04477/4	22/09651/7	22/09132/1	22/09651/8
	Borehole ID	LKBH01	LKBH01 (2) Dup	LKBH03	RBH205	RBH206	LKBH03	LK BH03	LKBH01	LKBH03	RBH306	RBH201	RBH201 (2) Dup	RBH202	RBH202 (2) Dup	RBH203	RBH203	RBH203	RBH203	RBH203	RBH205	RBH207	RBH207
	Depth to top	13	13	10	6.5	7	7.6	7.6	5.4	7.45	6	22	22	23	23	13	10	7.4	7.6	7.6	22	22	22.5
	Depth to bottom																						
	Date sampled	27/09/2022	27/09/2022	04/10/2022	02/09/2022	02/09/2022	04/05/2023	10/05/2023	19/01/2023	19/01/2023	11/05/2023	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022	04/10/2022	19/01/2023	04/05/2023	10/05/2023	27/09/2022	14/09/2022	27/09/2022
	Sample type																						
	RTV (mg/l)																						
Trichloroethene (TCE)	0.0545	0.002	0.002	0.25	<0.001	<0.001	0.043	0.039	0.002	0.08	<0.001	<0.001	<0.001	0.004	0.003	0.48	0.572	0.418	0.214	0.2	<0.001	<0.001	<0.001
Carbon tetrachloride (tetrachloromethane)	1.55	<0.001	<0.001	0.058	<0.001	<0.001	0.053	0.046	0.003	0.073	<0.001	<0.001	<0.001	<0.001	<0.001	0.095	0.104	0.265	0.164	0.107	<0.001	<0.001	<0.001
Cis/trans 1,2-dichloroethene (DCE)	0.138	0.49	0.485	0.003	<0.001	<0.001	0.003	0.004	0.602	0.006	<0.001	0.004	<0.001	<0.001	<0.001	0.002	0.002	0.004	0.004	0.003	<0.001	<0.001	<0.001
Vinyl Chloride (chloroethene)	0.0172	0.016	0.015	<0.001	<0.001	<0.001	<0.001	<0.001	0.011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Notes:

LMDL Laboratory method detection limit

COPC Contaminant of potential concern

DQRA Detailed quantitative risk assessment

< Result less than the LMDL

RTV Remedial target value

- COPC not analysed

Comparison of RTVs against measured concentrations in groundwater

COPC	Lab sample ID	22/09132/3	22/09651/9	22/09132/2	22/09651/10	22/09132/4	22/09651/11	23/04296/1	23/04477/1	23/04296/2	23/04477/2	23/04296/3	23/04477/3	23/04296/4	23/04510/1	23/04296/5	23/04510/3	Maximum concentration detected in groundwater (mg/l)	Total No. of groundwater samples analysed	Number of detects in groundwater above the RTV
	Borehole ID	RBH208	RBH208	RBH209	RBH209	RBH210	RBH210	RBH301	RBH301	RBH302	RBH302	RBH303	RBH303	RBH305	RBH305	RBH306	SS304			
	Depth to top	15.5	21.5	21.5	15.5	22	22	5.65	5.7	7.5	7.5	7.05	7.1	6.5	6.5	6				
	Depth to bottom																			
	Date sampled	14/09/2022	27/09/2022	14/09/2022	27/09/2022	14/09/2022	27/09/2022	04/05/2023	10/05/2023	04/05/2023	10/05/2023	04/05/2023	10/05/2023	04/05/2023	11/05/2023	04/05/2023	11/05/2023			
	Sample type																			
	RTV (mg/l)																			
Trichloroethene (TCE)	0.0545	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	0.003	0.277	0.221	0.003	<0.001	<0.001	<0.001	0.572	38	9
Carbon tetrachloride (tetrachloromethane)	1.55	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.207	0.159	0.038	0.022	0.002	<0.001	<0.001	<0.001	0.265	38	0
Cis/trans 1,2-dichloroethene (DCE)	0.138	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.086	0.102	0.001	0.001	0.081	0.084	<0.001	<0.001	<0.001	<0.001	0.602	38	3
Vinyl Chloride (chloroethene)	0.0172	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.002	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.016	38	0

Notes:

LMDL Laboratory method detection limit

COPC Contaminant of potential concern

DQRA Detailed quantitative risk assessment

< Result less than the LMDL

RTV Remedial target value

- COPC not analysed

Comparison of RTVs against measured concentrations in soil

COPC	Lab sample ID	22/07379/8	22/07002/5	22/07002/2	22/07217/6	22/07217/5	22/07217/2	22/07217/8	23/03693/3	23/03693/1	22/07379/1	22/07379/2	22/07002/6	22/07379/6	23/03602/17	23/03602/18	23/03602/19	23/03602/20	23/03602/21	23/03602/13	23/03602/14	23/03602/15	23/03602/16
	Borehole ID	RBH203	TP202	TP203	TP214	TP215	TP216	TP218	TP307	TP310	WS202	WS203	WS204	WS210	WS301	WS301	WS301	WS301	WS301	WS302	WS302	WS302	WS302
	Depth to top	3	0.5	0.3	0.8	1	0.6	0.5	0.6	0.5	1.5	0.5	0.4	0.5	0.5	1.5	2.5	3.5	4.5	0.5	1.5	2.5	3.5
	Depth to bottom																						
	Date sampled	25/07/2022	13/07/2022	12/07/2022	18/07/2022	18/07/2022	18/07/2022	19/07/2022	12/04/2023	12/04/2023	21/07/2022	21/07/2022	13/07/2022	22/07/2022	04/04/2023	04/04/2023	04/04/2023	04/04/2023	04/04/2023	04/04/2023	04/04/2023	04/04/2023	04/04/2023
	Sample type																						
	RTV (mg/kg)																						
Trichloroethene	0.21	0.006	0.012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.03	<0.001	<0.001	0.067	0.026	0.017	0.043	<0.001	0.004	0.602	0.021	0.094
Carbon tetrachloride	0.108	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005	<0.001	<0.001	0.003	<0.001	<0.001	<0.025	0.001	0.008

Notes:

LMDL Laboratory method detection limit

COPC Contaminant of potential concern

DQRA Detailed quantitative risk assessment

< Result less than the LMDL

RTV Remedial target value

- COPC not analysed

Comparison of RTVs against measured concentrations in soil

COPC	Lab sample ID	23/03602/1	23/03602/2	23/03602/3	23/03602/4	23/03602/28	23/03602/30	23/03602/32	23/03602/33	23/03602/5	23/03602/6	23/03602/25	23/03602/26	23/03602/27	23/03602/34	23/03602/7	23/03602/8	23/03602/9	23/03602/10	23/03602/11	23/03602/12	23/03693/8	23/03602/35
	Borehole ID	WS303	WS303	WS303	WS303	WS304	WS304	WS304	WS304	WS305	WS305	WS306	WS306	WS306	WS307	WS308	WS308	WS308	WS309	WS309	WS309	WS309	WS310
	Depth to top	0.4	1.2	1.8	3.1	0.5	1.5	2.5	3.5	0.5	1	0.5	1.5	2.5	0.4	0.6	1	2	0.7	1.9	2.5	0.4	0.4
	Depth to bottom																						
	Date sampled	03/04/2023	03/04/2023	03/04/2023	03/04/2023	04/04/2023	04/04/2023	04/04/2023	04/04/2023	03/04/2023	03/04/2023	04/04/2023	04/04/2023	04/04/2023	04/04/2023	03/04/2023	03/04/2023	03/04/2023	03/04/2023	03/04/2023	03/04/2023	11/04/2023	05/04/2023
	Sample type																						
	RTV (mg/kg)																						
Trichloroethene	0.21	0.015	0.036	0.007	<0.025	0.23	0.016	0.074	0.043	0.06	0.427	0.098	0.15	0.006	0.066	0.569	1.13	0.039	0.072	0.015	0.003	<0.001	0.001
Carbon tetrachloride	0.108	<0.001	<0.025	<0.001	<0.025	0.004	<0.001	0.004	0.002	0.002	0.009	<0.001	<0.002	<0.001	<0.002	0.034	0.038	<0.001	0.001	<0.001	<0.001	<0.001	<0.001

Notes:

LMDL Laboratory method detection limit

COPC Contaminant of potential concern

DQRA Detailed quantitative risk assessment

< Result less than the LMDL

RTV Remedial target value

- COPC not analysed

Comparison of RTVs against measured concentrations in soil

COPC	Lab sample ID	23/03602/36	23/03958/3	23/03602/37	23/03602/38	Maximum concentration detected in soil (mg/kg)	Total No. of soil samples analysed	Number of detects in soil above the RTV
	Borehole ID	WS311	WS311	WS312	WS312			
	Depth to top	0.4	1.8	0.6	1			
	Depth to bottom							
	Date sampled	05/04/2023	20/04/2023	05/04/2023	05/04/2023			
	Sample type							
	RTV (mg/kg)							
Trichloroethene	0.21	<0.001	<0.001	<0.025	<0.001	1.13	48	5
Carbon tetrachloride	0.108	<0.001	<0.001	<0.025	<0.001	0.038	48	0

Notes:

LMDL Laboratory method detection limit

COPC Contaminant of potential concern

DQRA Detailed quantitative risk assessment

< Result less than the LMDL

RTV Remedial target value

- COPC not analysed

COMPLEX CHALLENGES ...
MADE SIMPLE

APPENDIX J – SUPPORTING INFORMATION

Technical Note

Plot NT03 Network Rail Mound

for

Far East Consortium International Ltd



24/01/2023

CONTENTS

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1.0 Introduction

Further to our Phase 2 Site Investigation Report of 21 October 2022 (ref. 4328-ROC-ZZ-XX-RP-ES-P2-101), this Technical Note has been produced to further investigate the potential presence of a buried retaining wall behind the Network Rail (NR) mound located on Plot NT03.

During the previous phase of investigation several hand dug pits were completed on top of the NR mound spread along the likely alignment of any buried retaining structure, up to the boundary palisade fence with the live tracks. This included a location adjacent to the viaduct wall visible above ground in the western portion of the NR mound. Accessibility was also limited by the presence of vegetation at the time of the works. No evidence of any retaining wall was encountered during the works and the results were considered inconclusive in proving or disproving the existence of a buried retaining structure.

Therefore, further works were recommended to increase the confidence level of the presence or absence of a buried retaining structure. Permission was arranged with Network Rail to access the trackside area of the boundary fence and undertake additional hand dug inspection pits to increase the level of certainty in the potential presence of any buried retaining structure supporting the viaduct to the south of the NR mound. Hand dug trial pit positions were proposed across the entirety of length of the boundary fence covering both the northern and southern sides of the boundary fence and including the previously inaccessible eastern portion of the NR mound. These works have now been completed and the findings are detailed below.

2.0 Background Information / Site History

Plot NT03 is located off Dantzic Street, Manchester. The plot was until recently largely occupied by a topsoil mound owned by Ryan Topsoil Ltd, until this was removed in December 2022, the month preceding the works. While the southern portion of the plot is occupied by the Network Rail mound. The below extract (Figure 1) depicts the extents of the two mounds in July 2022.

Figure 1: NR Mound Extents



A review of historic mapping of this area indicates the Newtown Sidings were first constructed to the southeast of the site boundary between 1850 and 1891. Between 1891 and 1908 the sidings and railway were further extended up to the site's southern boundary and a signal box was constructed atop the current NR mound. Because the current NR mound first appears on the same map in which the railway viaduct was extended to the site boundary, it is not clear from historic records whether a new wall was constructed to support the extension of the viaduct to the site, or if the railway is supported by the mound itself at the site boundary. Similarly, the 1893 wall was not observed in this location.

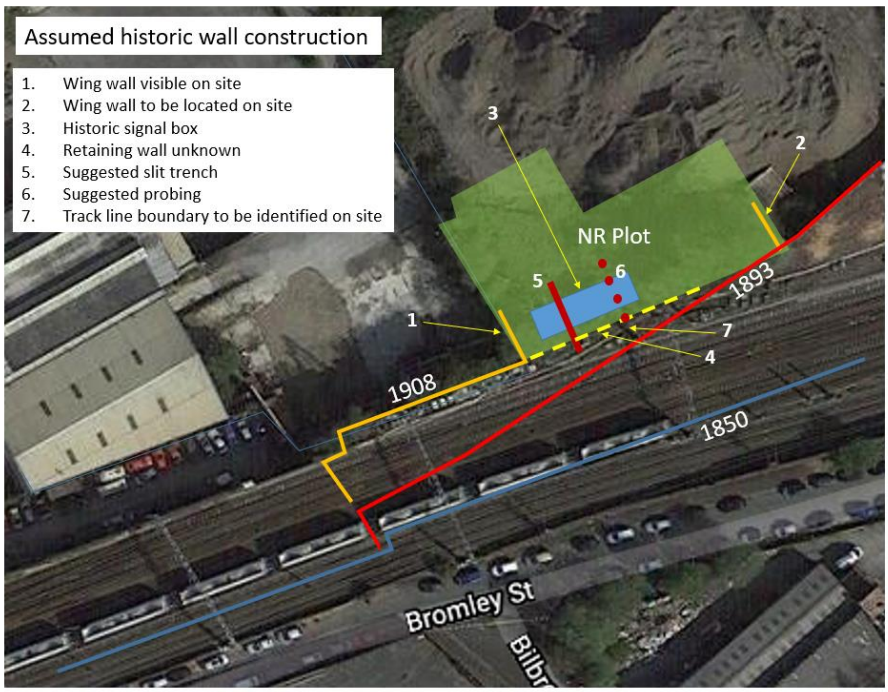
Review of aerial imagery dating from 1939 indicates a wall atop the mound but it is unclear if this wall is present below ground level mound acting as a retaining structure for the adjacent viaduct, or whether it is simply a boundary wall separating the track from the signal box. The signal box is believed to have been demolished at some point between 1968 and 1990 and the mound does not appear on maps in this period. However, mapping records dated 1980 to 1986 indicate a contour in the area of the mound indicating it was not removed along with the signal box.

Generally, the railway line and sidings elsewhere in plots NT02-04 are supported on a masonry viaduct structure along the site's southern boundary some 9 to 4.5m above the adjacent site level. It is not clear from the historic records whether this viaduct structure continues alongside the NR mound or whether it is the existing earth mound that is offering support to track level over this length.

Previous site investigations atop the mound failed to encounter any buried retaining structures. In order to satisfactorily investigate the presence or absence of a wall further work was proposed extending excavated areas south of the boundary fence and into the eastern portion of the mound.

The known information at this time, and hypothesized wall location, are illustrated in Figure 2 below. A summary of the history of the viaduct and mound, including extracts of the referenced historic maps, are provided within Appendix D of this technical note.

Figure 2: Assumed Historic Wall Construction



3.0 Site Investigation Fieldworks

Site investigation fieldworks were completed between the 9th and 11th of January 2023 by Contractors PM Sampling Ltd.

On the 9th of January the vegetation clearance was undertaken, and the site works area set up under supervision from Network Rail representatives. The site works perimeter was setup in such way as to prevent equipment toppling into track areas, or persons entering track areas. The boundary fence within the area of works was removed and temporarily made safe with Heras fencing. Upon completion of the works the palisade fencing was reinstated to an as found condition and the reinstatement approved by a NR engineer.

Information with respect to buried services was obtained from relevant providers prior to commencement of the investigation works. Network Rail also undertook a check of their service records for the site work area. Additionally, as a precaution all exploratory hole locations were scanned with a Cable Avoidance tool and Ground Penetrating Radar by the RSK Safe Ground team who specialise in service avoidance. Exploratory hole locations are presented on drawing 4328-ROC-ZZ-XX-DR-ES-ES111.

The site investigation works comprised the formation of five hand dug inspection pits to a maximum depth of 1.50mbgl using hand digging tools. Placement of the inspection pits was dictated by the most likely alignment of any retaining structure and extended excavations onto the previously inaccessible southern side of the boundary fence.

The soils encountered during excavation were described and logged by a suitably qualified engineer in accordance with BS 5930: Code of Practice for Site Investigations (the log sheets for which have been provided within Appendix B).

Services

A service trough carrying high voltage cables runs along the northern edge of the boundary fence. Network Rail have previously been consulted regarding this asset and advised that it was a live cable. No live electricity signal was detected during the works and the asset was traced along the entirety of the boundary fence using a CAT and GENNY so excavations could safely be carried out whilst avoiding the cables.

4.0 Encountered Ground Conditions

Buried Retaining Wall

Buried retaining wall structures were encountered in both HDP301 and HDP302. The similar alignment and form of the walls observed in these locations indicate that it is likely the same structure. Additionally, the form and alignment of the encountered buried walls appeared to match that of the adjacent 1893 siding wall.

Further investigations in the locations of HDP303 and 304 did not uncover further structures. Furthermore, at HDP305, which was located adjacent to the visible retaining wall in the western portion of the Network Rail mound, no evidence of any buried structures was observed.

The feature observed in HDP301 and HDP302, has been recorded through dimensional surveys and corresponds to the anticipated location of the 1893 siding wall. Extrapolating from the observed location, and as recorded on historic maps this would continue further to the southwest, outside the Network Rail approved work area. Consequently, the 1893 wall is anticipated to be present in its expected location, continuing beneath the existing tracks. Due to the method of investigation the foundation depth of this feature is unknown, as is its condition beneath the mound.

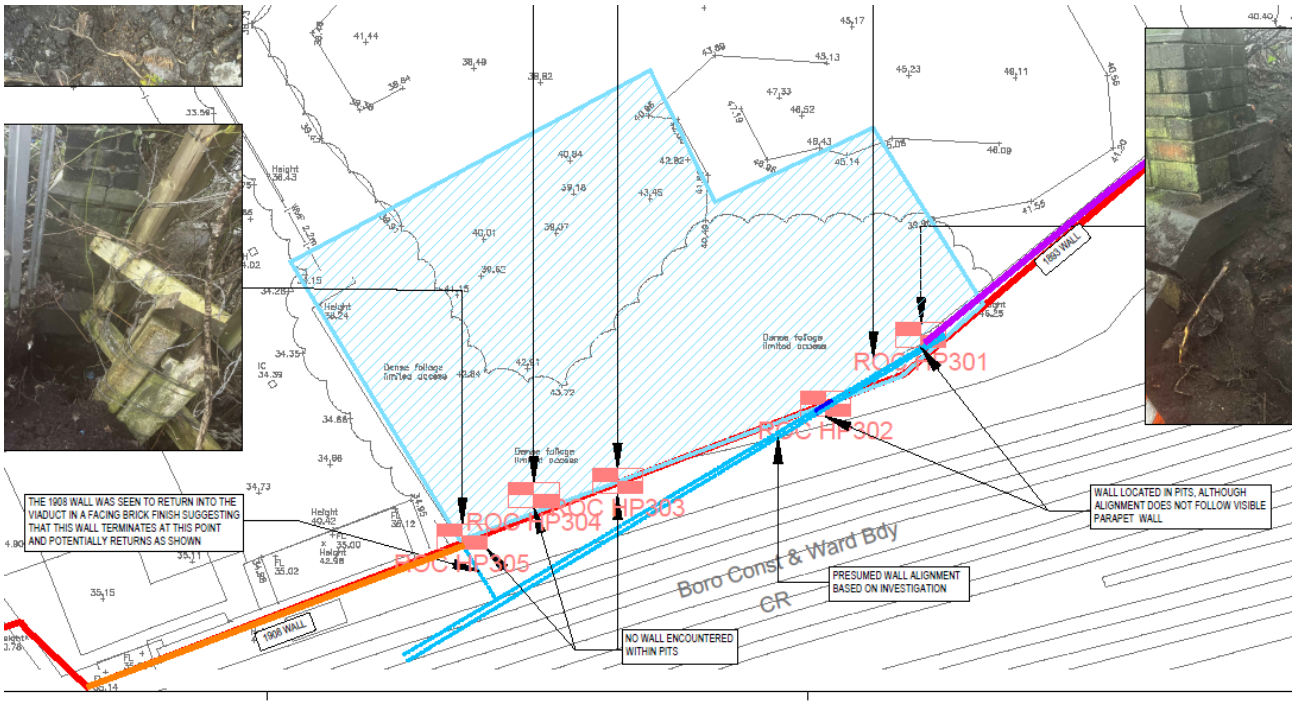
The absence of further observed features in HDP303 and 304, and in previous excavations in the vicinity, suggests that there is no evidence of the hypothesized outer 1908 wall behind the Network Rail land in this location. The absence of features in HDP305 is such that there is no evidence of a structure connecting the wall to the west of the site to the 1893 wall, although the use of facing brick at the end of the parapet wall in HDP305 might suggest otherwise. Consequently, it is feasible that there is an area of unretained land between the in front of the 1893 wall that is supported solely by the mound.

Images of the buried retaining wall and the hand dug inspection pits completed are contained within Appendix C of this technical note. Additionally drawing 4328-ROC-ZZ-XX-DR-ES-ES111 contained within Appendix A depicts the location of the exploratory holes as well as the encountered and assumed alignment of the buried retaining wall, based on dimensional surveys of the uncovered features. An extract of ES111 has been provided overleaf in figure 3.

Ground Conditions

The encountered ground conditions within the inspection pits formed as part of the investigation generally comprised a thin layer of topsoil (0.10 to 0.20mbgl) underlain by ballast material (0.30 to 0.60mbgl) which is likely overspill from the neighbouring railway tracks. This was in turn underlain by a predominantly loose slightly gravelly silty sand containing anthropogenic inclusions such as brick, coal, ballast, and railway sleepers this was encountered until the termination depth of all locations with the exception of HDP304 where reworked clay was encountered at a depth of 1.20mbgl to 1.40mbgl. No natural strata were encountered during the investigation. Log sheets have been provided for all exploratory hole locations and are contained within Appendix B.

Figure 3: NR Mound Retaining Wall Investigation (Extract from ES111)



5.0 Conclusions & Recommendations

Site investigations have uncovered a buried retaining wall structure in the eastern portion of the NR mound which runs in a roughly south-westerly direction from HDP301. This is believed to be the retaining wall visible on historic mapping dated 1893, which would not support all of the live track in this location. No clear evidence has been observed of further structures, such as the hypothesized 1908 wall, or a structure connecting the 1893 wall to the wall to the west of the site. It is therefore feasible that a volume of soil beneath the existing track side land is retained solely by the earth mound. The method of investigation of the work is such that the depth and condition of the 1893 wall remains unknown.

APPENDIX A – DRAWINGS

APPENDIX B – BOREHOLE LOGS

APPENDIX C – PHOTOGRAPHS

APPENDIX D – HISTORIC SUMMARY











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Generic assessment criteria (v-GAC) for indoor human health exposure

Background

RSK's vapour generic assessment criteria (v-GAC) are periodically revised when updated information on toxicological, land use, or receptor parameters is published.

A detailed framework for the assessment of VOC is provided in CIRIA C682[(1)], which describes the development and use of screening criteria for VOC present in soil, groundwater and soil vapour.

For soil it is recognised that for VOC, published Soil Guideline Values (SGV), Category 4 Screening Levels (C4SLs), or calculated generic assessment criteria (GAC) that include, or are specific to, indoor inhalation exposure pathways may be used as conservative screening criteria[(1)].

RSK has calculated GAC for VOC in soils for a variety of land uses using CLEA v1.071. The GACs are derived with reference to published data collated by LQM/CIEH in derivation of Suitable for Use Levels published in 2015 by Nathanial et al.,[(6)] as well as data collated by CL:AIRE, EIC and AGS [(7)]. RSK also utilise C4SLs based on Low Limits of Toxicological Concern (LLTCs) as published by CL:AIRE. For groundwater, RSK has calculated groundwater assessment criteria (GrAC) using the RBCA model (version 1.3b) updated to reflect UK guidance.

The following document summarises RSKs approach to developing GACs for soil vapour and indoor air in line with current UK guidance. A more detailed rationale is available on request.

Generic Soil Vapour Assessment Criteria (v-GAC)

RSK details herein the calculation of v-GAC to be used for screening soil vapour VOC concentrations for the protection of human health inhalation exposure within residential and commercial buildings.

The v-GAC are relevant to soil vapour VOC concentrations measured in the following scenarios:

- Open spaces, with planned future development;
- Near slab – i.e. close to, but outside, the building footprint; and
- Sub slab – i.e. directly beneath the building footprint.

It is important to note that v-GAC relate to soil vapour concentrations only.

Indoor air sampling data must be compared directly with relevant published or tolerable indoor air concentrations such as those in Table 3 or with relevant UK occupational exposure limits or air quality guideline values depending upon the purpose of the assessment.

Approach to Calculation of v-GAC

In line with recommendations[(9)] and the approach taken within the CLEA model, RSK has used the Johnson & Ettinger model[(10)] as the basis to estimate the v-GAC. Attenuation factors are calculated for the residential and commercial land uses based on building ventilation rates (Q_B) and the volumetric flow rate of soil vapour into the building (Q_{SOIL}).

The building ventilation rate Q_B has been calculated for various building types (residential and commercial) using building parameters provided in Tables 3.3 and 4.21 in SR3[(3)], and based on building air exchange rates (E_X) recommended in SR3[(3)] for residential properties (0.5 h^{-1}) and commercial properties (1.0 h^{-1}).

Values for the volumetric flow rate into the building (Q_{soil}) are stated in SR3[3], based on a combination of building parameters and soil type (crack/joint infill), and calculations provided in Appendix 1 of SR3[3], as 25 $cm^3\ s^{-1}$ and 150 $cm^3\ s^{-1}$ for the residential and commercial land uses, respectively based on default sandy loam soil properties.

The approach to calculating v-GAC taken by RSK therefore bypasses direct use of the full J&E model algorithm and uses a simple dilution relationship (Q_{soil} / Q_B), which is more conservative and suitable for screening purposes and is consistent with UK guidance and assumptions made in the derivation of SGVs [3] and other GAC [6,7].

Attenuation factors (α) have been calculated on the basis of the above and are presented in Table 1.

Table 1: α Attenuation Factors for a Variety of Residential and Commercial Buildings

Receptor	Building Living Space Height - H (m) [a]	Building Footprint A_{foot} (m^2) [a]	Building Air Exchange Rate (hr^{-1}) [a]	Building Ventilation Rate Q_B ($cm^3\ s^{-1}$) [b]	Soil Vapour Flow Rate into Building Q_{soil} ($cm^3\ s^{-1}$) [c]	Attenuation Factor - Alpha = Q_{soil}/Q_B [d]	Degree of Attenuation
Residential - Bungalow	2.4	78	0.5	22472	25	0.00096	1040
Residential - Small Terrace House	**4.8**	**28**	**0.5**	**9250**	**25**	**0.00134**	**747**
Residential - Medium/Large Terrace House	4.8	44	0.5	13694	25	0.00085	1173
Residential - Semi-Detached House	4.8	43	0.5	13417	25	0.00087	1147
Residential - Detached House	4.8	68	0.5	20361	25	0.00055	1813
Commercial - Warehouse (pre-1970)	5.2	1089	1	304222	150	0.00008	12584
Commercial - Warehouse (post-1970)	5.9	1914	1	533583	150	0.00004	25095
Commercial - Office (pre-1970)	**9.6**	**424**	**1**	**1130666**	**150**	**0.00013**	**7538**
Commercial - Office (post-1970)	13	610	1	173333	150	0.00006	17622

Notes:

[a] From Table 3.3 and 4.21, SR3[3]

[b] Equation 10.5, SR3[3]

[c] Generic flow rate, Section 10.3, SR3[3]

[d] Most conservative assumption where advection across foundation is rate limiting[8]

Calculation of v-GAC, specific to both chemical and building type, has been undertaken through division of the HCV, LLTC, or tolerable indoor air concentration as appropriate, specific to the critical receptor for a given end-use (e.g., residential or commercial), and the corresponding building-specific attenuation factor as follows:

$$\textbf{v-GAC} = \textbf{HCV} / \alpha$$

Health Criteria Values (HCV) and Tolerable Air Concentrations

The HCV and background inhalation has been taken from the relevant SGV report[12], published by Nathanial et al.,[6] EIC / CL:AIRE / AGS report[7], or from published C4SL LLTCs by CL:AIRE [13, 16, 17, 18] as appropriate.

The HCV have been amended to provide tolerable indoor air concentrations for commercial and residential scenarios as follows:

Commercial - An adult weighing 70kg and breathing 15.7m^3 air per day in accordance with the revised exposure parameters used in the SP1010 final project report for the Category 4 Screening Levels (C4SL) (Table 3.2[13]) and USEPA data[14]. Background inhalation (mean daily intake (MDI)) for an adult (Age Class 17).

Residential - A child weighing 13.3kg (average of 0-6 year old female in accordance with Table 4.6 of SR3[3]) and breathing 8.77m^3 (average daily inhalation rate for a 0-6yr old female in accordance with SP1010 final project report for the C4SL (Table 3.2[13]) and USEPA data[14]. Background inhalation (mean daily intake (MDI)) for a child (Age Classes 1-6).

The MDI for younger age groups following Table 3.4 and Section 3.4.1 of SR2[2]; are amended to reflect average daily inhalation rates in accordance with the C4SL methodology (Table 3.2[13]) and based on USEPA data[15]. The correction factors adopted for child MDI are presented in Table 2.

Table 2: Correction factors used to adjust adult MDI to younger age groups

Age Class	Body weight (kg)[1]	Inhalation rate (m^3/day)[2]	Correction factor for inhalation MDI[3]
1	5.6	5.4	0.34
2	9.8	8	0.51
3	12.7	8.9	0.57
4	15.1	10.1	0.64
5	16.9	10.1	0.64
6	19.7	10.1	0.64
17	70	15.7	-
Mean (AC1-6)	**13.3**	**8.8**	**0.56**

Notes
[1] Body weight from CLEA v1.06
[2] Inhalation rate from Table 3.2 of the SP1010 final project report for the C4SL[13]
[3] Inhalation correction factors are the ratio of the average male and female inhalation rates for each age class to the adult rate at age class 17 (age 16–59 years) and are based on the rates used by the Category 4 Screening Levels to derive the C4SLs[13],following the methodology in SR2[2].

Note on Trimethylbenzenes

It should be noted that the mean daily intake for trimethylbenzenes has been adjusted based on the average air concentration of 1,2,4-trimethylbenzene measured in 2015 at Eltham, south-east London of 0.309 ug m^{-3} and is considered by RSK to supersede the value adopted by CL:AIRE. The updated MDI results in respective inhalation HCV of 8.5 ug m^{-3} (0.0085 mg m^{-3}) for adults and 2.6 ug m^{-3} (0.0026 mg m^{-3}) for children. Due to the paucity of toxicological data for 1,2,3-trimethylbenzene and 1,3,5-trimethylbenzene the modified HCV for 1,2,4-trimethylbenzene has been adopted for all trimethylbenzenes.

Calculated tolerable air concentrations based on modified health criterion values are provided in Table 3. The values can be adopted for comparison to contaminant concentrations in ambient air.

Table 3: Tolerable Air Concentrations

Tolerable Indoor Air Concentration (mg/m^3)[1]		
VOC / SVOC	**Child (Residential)**	**Adult (Commercial)**
MTBE	1.0803	3.2064
Benzene (C4SL)	0.0050	0.0062
Toluene	2.1164	6.2362
Ethylbenzene	0.1113	0.3301
Xylenes	0.0834	0.2609
Trimethylbenzenes	0.0026	0.0085
TPH Aliphatic EC5-EC6	3.7913	11.1465
TPH Aliphatic >EC6-EC8	3.7913	11.1465
TPH Aliphatic >EC8-EC10	0.2199	0.6465
TPH Aliphatic >EC10-EC12	0.2199	0.6465
TPH Aliphatic >EC12-EC16	0.2199	0.6465
TPH Aromatic >EC8-EC9 (styrene)	0.1820	0.5350
TPH Aromatic >EC8-EC10	0.0455	0.1338
TPH Aromatic >EC10-EC12	0.0455	0.1338
TPH Aromatic >EC12-EC16	0.0455	0.1338
Acenaphthene	0.0910	0.2675
Acenaphthylene	0.0910	0.2675
Naphthalene	0.0011	0.0037
Vinyl chloride (C4SL)	0.0087	0.0255
Dichloroethane-1,2	0.0002	0.0005
Tetrachloroethene (C4SL)	0.0152	0.0478
Carbon tetrachloride	0.0025	0.0114
Trichloroethane-1,1,1	0.9099	2.6752
Trichloroethene (C4SL)	0.0018	0.0054
Tetrachloroethane 1,1,2,2 & 1,1,1,2	0.0086	0.0257
1,1,2-Trichloroethane	0.0073	0.0216
1,1-dichloroethane	0.3030	0.8915
1,1-dichloroethene	0.0864	0.2541
Chloroethane	4.3318	12.7374
Chloromethane	0.0039	0.0115
cis-1,2-dichloroethene	0.0087	0.0264
Dichloromethane	0.1781	0.5765
trans-1,2-dichloroethene	0.0253	0.0754
Trichloromethane (chloroform)	0.0570	0.1752
Mercury Elemental	0.000089	0.00027
Mercury Methyl	0.0003	0.0008

C4SL denotes value based on published inhalation Lower Limit of Toxicological Concern
TPH aromatic >C5-7 and aromatic >C7-C8 comprise benzene and toluene respectively.
[1] Inhalation HCV has taken account of background inhalation for threshold compounds only.
[2] It should be noted that the tolerable air concentrations are for a commercial land use and adult receptor based on an assumed inhalation rate of 15.7m^3/day. Air quality standards based on inhalation of 20m^3/day or workplace exposure limits may also be appropriate subject to the site circumstances.

RSK v-GAC

RSK v-GAC are presented in Table 4 for residential and commercial end-uses for common VOC and have also been calculated for common semi-volatile organic chemicals (sVOC), which may also have the potential to pose inhalation exposure risks.

RSK v-GAC listed in Table 4 have been calculated for the standard residential (small, terraced house) and commercial buildings (pre-1970's office).

Table 4: RSK v-GAC – Single Exposure Route

Volatile Organic Compound	v-GAC (mg/m^3)	
	Residential (Small Terrace House)	Commercial (Office pre-1970)
Attenuation factor	**0.00134**	**0.00013**
Methyl tert-butyl ether	807	24169
Benzene (C4SL)	3.74	47
Toluene	1580	47007
Ethylbenzene	83.1	2488
Xylenes	62.3	1967
Trimethylbenzenes	1.9	64
TPH Aliphatic EC5-EC6	2831	84020
TPH Aliphatic >EC6-EC8	2831	84020
TPH Aliphatic >EC8-EC10	164	4873
TPH Aliphatic >EC10-EC12	164	4873
TPH Aliphatic >EC12-EC16	164	4873
TPH Aromatic >EC8-EC9 (styrene)	34	1008
TPH Aromatic >EC8-EC10	34	1008
TPH Aromatic >EC10-EC12	34	1008
Phenanthrene	14	420
Pyrene	34	1008
Naphthalene	0.82	28
Vinyl chloride (C4SL)	6.5	192
1,2-Dichloroethane	0.14	4.0
Tetrachloroethene (PCE) (C4SL)	11	274
Tetrachloromethane	1.85	360
1,1,1-Trichloroethane	679	86
Trichloroethene (TCE) (C4SL)	1.36	20165
Tetrachloroethane 1,1,2,2 & 1,1,1,2	6.5	40
1,1,2-Trichloroethane	5.4	194
1,1-dichloroethane	226	163
1,1-dichloroethene	65	6720
Chloroethane	3234	1915
Chloromethane	2.9	96011
cis-1,2-dichloroethene	6.5	86
Dichloromethane	133	199
trans-1,2-dichloroethene	19	4346
Trichloromethane (chloroform)	43	568
Mercury Elemental	0.07	1320
Mercury Methyl	0.22	163

C4SL denotes value based on published inhalation Lower Limit of Toxicological Concern
TPH aromatic >C5-7 and aromatic >C7-C8 comprise benzene and toluene respectively.

RSK v-GAC are simple screening criteria, derived in line with the principles of the CLEA model and the derivation of GAC, and are considered to be suitable for use in a GQRA for the following reasons:

- Calculation of attenuation factors is based on the conservation assumption that the source lies directly beneath the foundation and that no additional depletion via diffusion occurs, i.e. attenuation is attributed solely to the dilution of soil vapour as it moves through the foundation into indoor air
- Volumetric flow rate into buildings (Q_{soil}) is based on a combination of a sandy loam soil and parameters for a standard building type used in setting GACs
- Biodegradation of VOC is not taken into account. Biodegradation of petroleum hydrocarbons can potentially attenuate soil vapour concentrations and vapour intrusion by several orders of magnitude[15]. It should be noted however that the J&E model upon which the assessment is based may not be conservative for estimation of vapour intrusion risk from chlorinated solvent VOC.

Uncertainties and Limitations of Use

The use of the J&E model[10] is considered to be inappropriate for site conditions where NAPL is present and may not be suitably precautionary with modelling chlorinated hydrocarbons. The simplified RSK approach negates these limitations provided that representative soil vapour concentrations are measured in shallow soil near to the building foundation.

Use of the v-GAC should only be undertaken with **detailed knowledge of the conceptual model and an understanding of the potential limitations in data** for the site and should be used as part of a multiple lines of evidence approach to assessing vapour intrusion. The compounds listed in tables are not exhaustive and other VOC may have the potential to pose a risk.

The v-GAC are based on a sandy loam soil type consistent with the setting of GACs and therefore may not be precautionary where granular soils (i.e. gravels and sands) are present.

v-GAC may not be relevant or suitably protective where VOC migration is dominated by ground gas (carbon dioxide and methane) pressure driven flow or where other mechanisms leading to VOC exposure from soils (e.g., ingestion, dermal, dust inhalation) are active. v-GAC may also not be relevant where the direct impact of VOC sources occurs to foundation or building structures.

The conceptual model associated with the v-GAC does not consider vapour intrusion along drainage pipes/backfill and migration into a building.

References

1. Baker, K, Hayward, H, Potter, L, Bradley, D, MacLeod, C. (2009). Investigating, assessing and managing risks of inhalation of VOC on land affected by contamination. CIRIA C682 (London).
2. Environment Agency (2009), *Human health toxicological assessment of contaminants in soil. Science Report – Final SC050021/SR2* (Bristol: Environment Agency).
3. Environment Agency (2009), *Science Report – SC050021/SR3. Updated technical background to the CLEA model* (Bristol: Environment Agency).
4. Environment Agency (2009), *Science Report – SC050021/SR4 CLEA Software (version 1.05) Handbook* (Bristol: Environment Agency).
5. BSI (2013). British Standard 8576:2013 - Guidance on investigations for ground gas. Permanent gases and Volatile Organic Compounds (VOCs).
6. Nathanial, C. P., McCaffrey, C., Gillet, A. G., Ogden, R. C. and Nathanial, J. F. (2015), The LQM/CIEH S4ULs for Human Health Risk Assessment (Nottingham: Land Quality Press).
7. CL:AIRE (2009). *Soil Generic Assessment Criteria for Human Health Risk Assessment* (London: CL:AIRE).
8. Johnson P.C. & Ettinger R.A. (1991). Heuristic model for the intrusion rate of contaminant vapors into buildings. Environmental Science & Technology, 25(8); 1445–1452.
9. Environment Agency. 2002. Vapour transfer of soil contaminants, R&D Technical Report P5-018/TR.
10. Johnson P.C. (2002). Identification of critical parameters for the Johnson & Ettinger (1991) vapour intrusion model. American Petroleum Institute.
11. Brewer R, Nagashima, J, Rigby, M, Schmidt, M, O'Neill, H. (2014). Estimation of Generic Subslab Attenuation Factors for Vapour Intrusion Investigations. Groundwater Monitoring & Remediation 34 (4); 79-82.
12. Environment Agency (2009), 'Science Reports SC050021 - SGV and TOX reports for: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs'; 'Supplementary information for the derivation of SGV for: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs', and 'Contaminants in soil: updated collation of toxicological data and intake values for humans: benzene, toluene, ethylbenzene, xylene, mercury, selenium, nickel, arsenic, cadmium, phenol, dioxins, furans and dioxin-like PCBs'. Available at: https://www.claire.co.uk/useful-government-legislation-and-guidance-by-country/209-assessing-risks-to-human-health-info-ra2-2 (accessed April 2022)
13. Contaminated Land: Applications in Real Environment (CL:AIRE) (2014). 'Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination', Revision 2, DEFRA research project SP1010.
14. USEPA (2011), *Exposure factors handbook*, EPA/600/R-090/052F (Washington, DC: Office of Research and Development).
15. CL:AIRE, 2021. Category 4 Screening Levels: Vinyl Chloride. CL:AIRE, London. ISBN 978-1-905046-36-2.
16. CL:AIRE, 2021. Category 4 Screening Levels: Tetrachloroethene (PCE). CL:AIRE, London. ISBN 978-1-905046-37-9.
17. CL:AIRE, 2021. Category 4 Screening Levels: Trichloroethene (TCE). CL:AIRE, London. ISBN 978-1-905046-38-6.

COMPLEX CHALLENGES ...
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APPENDIX K – SOURCE – PATHWAY-RECEPTOR METHODOLOGY FOR CSM

Source – Pathway-Receptor methodology for CSM.

8.0.1 The results from the intrusive Phase 2 ground investigation have been used to complete a refined assessment of risks posed by ground contamination and ground stability issues beneath the site, building on the preliminary conceptual site model (CSM) and environmental risk assessment outlined in the Phase 1 Desktop Study. The current assessment considers the above risks both in terms of the site's current arrangement and usage, as well as any potential future development (and associated construction process).

8.0.2 The assessment has been collated with reference to various statutory and non-statutory guidance documents relating to land contamination and ground stability. Specifically, the assessment has been conducted in accordance with the Environment Agency Land Contamination Risk Management (LCRM) guidance relating to the "Tier 2 Generic Quantitative Risk assessment" process (revised April 2021).

8.0.3 In accordance with this method, a refined Conceptual Site Model has been prepared based on the results of the ground investigations findings This model is based around the Source / Pathway / Receptor methodology as outlined in Figure 8.0.

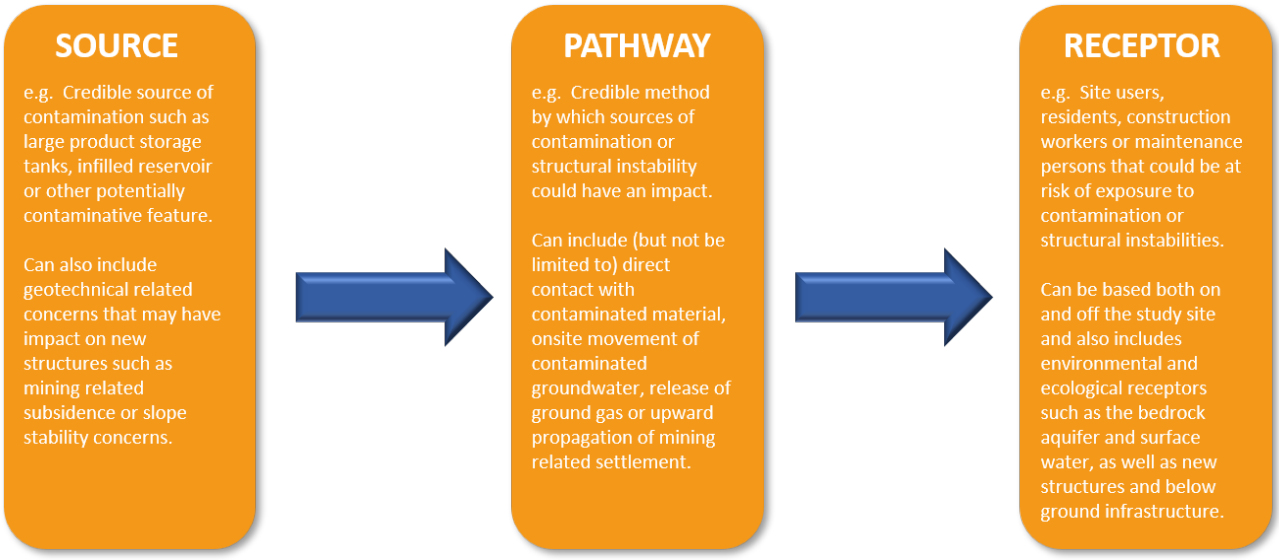


Figure 8.0 Source Pathway Receptor Diagram

8.0.4 Risk assessment is the process of collating known information on a hazard or set hazards in order to establish actual or potential risks to receptors. The receptor may be human health, controlled waters, a sensitive local ecosystem or property. Receptors can be connected (linked) with the hazard under consideration via one or several exposure pathways (e.g., the pathway of direct skin contact and oral exposure for a human health receptor

Without these three essential components of a source (hazard), a pathway and a receptor, which together constitute a pollution linkage, there is deemed to be no risk. In other words, the mere presence of a hazard at a site does not mean that there will necessarily be risks.

8.0.5 Risks are generally managed by either isolating or removing the hazard, isolating/removing the receptor, or by breaking the exposure (or linking) pathway.

8.0.6 Potential sources of contamination have been identified across the site based on the findings and the interpretation of the information obtained during all the previous ground investigations. These sources are defined based on the results from site investigation fieldworks and subsequent laboratory analysis of soil, soil gas and groundwater samples, and monitoring works. As previously discussed, the design of these investigations included judgemental elements of targeting known or suspected sources of contamination, based on the results of the Phase 1 Desktop Study as well as obtain site wide information on soil, groundwater, and ground gas.

8.0.7 The risk assessment has been completed with reference to the guidance outlined within CIRIA 552 "Contaminated land risk assessment. A good practice guide". This risk assessment methodology considers the potential consequence / severity (damage) of risks that may be present within soils in comparison with the likelihood (probability) of exposure to or and occurrence of said risk; i.e. the risk is equal to the likelihood (probability) multiplied by the severity (damage) A range of risk severity classifications are provided in Table 8.0 below, whilst Table 8.1 shows the range likelihood of risk; both Tables are based on CIRIA 552.

Table 8.0: Definition of Risk Class and Consequence

Risk Class	Definition	Example
Minor	Potential for harm, although not significant, which may result in financial loss to resolve. Ground conditions where the use of PPE would readily mitigate risks posed to human health.	Low level contamination hotspots within made ground / demolition fill materials. Stunted or impeded plant growth due to poor soil quality.
Mild	Pollution of non-sensitive water resources or damage to crops, plant growth, below ground utilities or structures.	Perched groundwater contamination overlying low permeability aquifer or aggressive sulphate concentrations in soils.
Medium	Sources of contamination identified on site have the potential to cause both long and short-term health effects on site residents / users. Alternatively (or in conjunction with) sources of contamination may have the potential to impact surface or groundwater quality or impede vegetation growth.	Elevated concentrations of hydrocarbon contamination reported within topsoil tested within residential gardens as a result of inadequate or incomplete previous remediation works. Movement of contaminated groundwater from leaking below ground storage tank into adjacent surface water course.
Severe	Sources of contamination pose a credible and acute risk to human health with potential for "Significant Harm" occurring as defined by the Part IIA of the Environmental Protection Act (1990). Alternatively (or in conjunction with risks posed to human health) sources of contamination may pose an immediate risk to controlled water resources or ecosystems.	Grossly contaminated soils are encountered or disturbed during excavation works, causing an immediate release of toxic soil vapour and leachate / contaminated groundwater flow across adjacent land.

Table 8.1: Probability Assessment

Classification	Definition
High likelihood	A credible pollutant linkage has been identified and it is very likely contaminants will impact identified receptors in both the short or long term (or is already actively doing so). The potential for harm to be caused is thus highly likely.
Likely	Pollutant linkages between the sources of contamination and identified receptors are present and it is considered likely they will become active given the right set of circumstances (e.g., contaminants currently buried below ground that are likely to be exposed or disturbed during construction / excavation works). The circumstances are such that an event is not inevitable, however it is possible in the short term and likely over the longer term.
Low likelihood	A theoretical pollutant linkage has been identified that has the potential to exposure receptors to contaminates under the correct circumstances. However, the likelihood of such an event occurring is not a certainty, even in the long term
Unlikely	There is no / minimal likelihood a pollutant linkage would occur, even over the long term.

8.0.9 Finally, Tables 8.2 and 8.3 respectively indicate how the actual nature of risk is defined and interpreted in the context of contaminated land risk assessment.

Table 8.2: Risk Definition

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate / Low Risk
	Likely	High Risk	Moderate Risk	Moderate / Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate / Low Risk	Low Risk	Very Low Risk
	Unlikely	Moderate / Low Risk	Low Risk	Very Low Risk	

Table 8.3: Description of Risks Posed

Risk Definition	Description
Very High	Active pollutant linkages between a significant source of contamination and identified receptors have been establish and there is a high likelihood of severe harm occurring to said receptors unless immediate investigation and remediation action is not taken.
High Risk	Harm is likely to arise to receptors from an identified hazard in the short and long term. Urgent investigation of the contaminant issue will be required, and remedial treatment is likely.
Moderate Risk	The possibility of harm has been identified toward receptors under the right circumstances, although the severity of harm would be relatively mild. Further investigation of identified issues would be prudent and possible need for remedial measures in the long term.
Low Risk	It is possible harm could arise to a designated receptor from identified hazard, but it is likely (if realised) any harm would be (at worst) mild.

Very Low Risk	No significant pollutant linkages have been identified and the possibly of harm occurring to receptors is low.

8.0.10 A Preliminary desk-based risk assessment has been completed for the site utilising the current and historical environmental information available (refer to RoC Consulting report ref: 4328-ROC-ZZ-XX-RP-ES-PH1DTS).

8.0.11 The Tier 2 risk assessment process can be divided based on the receptor group in question between:

Human Health

Risks posed to human health by soil contamination (both construction persons and future site and adjacent site users).

Risks posed to human health by hazardous ground gas ingress (both construction persons and future site and adjacent users).

Controlled Waters

Risks posed to controlled waters by soil or groundwater contamination (both surface water features and bedrock aquifers).

Ecology

Risks posed to onsite and / or surrounding sensitive local ecosystems by soil or groundwater contamination, and aggressive ground chemical conditions.

Property

Risks posed to new building construction by aggressive ground chemical conditions (namely elevated sulphate concentrations).

8.0.12 It is noted the site is being developed for residential led end use without gardens but containing areas of soft landscaping. In the short term, before construction begins, Plot NT02 will also be in use as temporary event space.

8.0.13 Appropriate contamination assessments have been completed for each of the above utilising the latest statutory and non-statutory guidance documents; for details of risks posed to human health refer to Section 8.1 (soils) and Section 8.2 (ground gas), for details of risks posed to controlled waters refer to Section 8.3 and risks posed to new structures refer to Section 8.4.

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