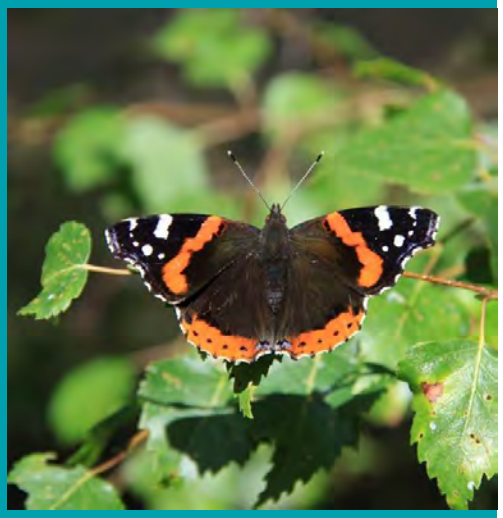
Britannia Refined Metals Ltd.

E-Scrap Facility, Northfleet

Environmental Permit
Application Site Condition
Report



Wood Group UK Limited – October 2022

Report for

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Document revisions

No.	Details	Date
1	Draft	Oct 22
2	Final	Oct 22

Executive summary

Purpose of this report

The purpose of this Application Site Condition Report (SCR) is to support Britannia Refined Metals Ltd (hereafter 'BRM') (a subsidiary of Glencore plc) in its application for an environmental permit, under the Environmental Permitting (England and Wales) Regulations 2016 (EPR), for a facility (hereafter 'the installation') to store and sample and process a range of waste streams including waste electronics material (also known as E-Scrap) and also wire cables, metal rich fraction of incinerator bottom ash and printed circuit boards, in Northfleet, Gravesend. The site hereafter, referred to as the 'installation site') is immediately north of BRM's existing facility on Botany Road / Manor Way, Northfleet. BRM's existing facility is regulated under The Environmental Permitting (England & Wales) Regulations 2016 under Permit No. EPR/BM4945IW, as varied. The Facility will utilise some areas of the existing BRM facility, including the access road, weighbridge and gatehouse in the north of the existing BRM facility. The existing BRM facility is used to produce commercial grade refined lead.

The installation site covers an area of approximately 1.1 hectares (ha) on land immediately north of the Existing BRM facility, approximately 20m west of the River Thames in Northfleet, borough of Gravesham in Kent.

All waste unloading, processing and despatch activities will take place in the main building which will have an impermeable concrete floor constructed to form a bund (with an 8 – 10 cm concrete lip at the walls). There will be no internal drainage system within the building. To facilitate the movement of vehicles around the installation site and provide pollution prevention for waste transport and other activities external to the main building, the installation site will have a large impermeable hardstanding extending around the main building. The hardstanding will include kerbing around the perimeter to form a contained apron for collection of surface water in a surface water drainage system which includes the use of oil water interceptors. The majority (~90%) of the installation site will be surfaced with buildings or hardstanding. Asphalt footways will provide pedestrian access to the main building and welfare facility, crossing the reinforced concrete hardstanding at safe locations.

With the pollution prevention measures in place, the activities at the installation site are unlikely to have a significant effect on soil or groundwater quality.

This SCR is intended to be part of a 'live' SCR document, or file, that is to be maintained / updated from permit issue throughout the operational lifetime of the permitted installation, and then throughout subsequent decommissioning phases and clean-up activities, until the site is deemed to be in a "satisfactory state" i.e. that there are no remaining pollution risks to land or groundwater resulting from the operation of the Installation. At that point, a Surrender SCR can be submitted to the Environment Agency to support an application to surrender the permit.

This Application SCR has been undertaken in general accordance with Environment Agency, H5 Site Condition Report Guidance (v3, May 2013). In accordance with the H5 guidance, Sections 1 to 3 have been completed for the permit variation application stage. The operator is required to maintain Sections 4 to 7 during the operational phase of the permit.

This report has been produced for the purpose of lifetime of the installation. Sections 8 to 10 are required to be completed as part of an application to surrender the Environmental Permit. The Sections of the SCR are summarised in the table below.

SCR Section	Information
Section 1	Introduction and Site Details
Section 2	Condition of the Land at Permit Issue
Section 3	Permitted Activities
Operational Phase	
Section 4	Changes to the Activity
Section 5	Measures Taken to Protect the Land
Section 6	Pollution Incident that may have had an impact on the Land, and their Remediation
Section 7	Soil, Gas and Water Quality Monitoring
Permit Surrender SCR	
Section 8	Decommissioning and Removal of Pollution Risk
Section 9	Reference Data and Remediation (where relevant)
Section 10	Statement of Site Condition

Contents

1. Site Details

1.1 Introduction

The purpose of this Application Site Condition Report (SCR) is to support Britannia Refined Metals Ltd (hereafter 'BRM') (a subsidiary of Glencore plc) in its application for an environmental permit, under the Environmental Permitting (England and Wales) Regulations 2016 (EPR), for a facility (hereafter 'the installation') to sample and process waste electronics material (also known as E-Scrap) and also wire cables, metal rich fraction of incinerator bottom ash and printed circuit boards, in Northfleet, Gravesend, on a site (hereafter, the 'installation site') immediately north of BRM's existing facility on Botany Road / Manor Way, Northfleet. BRM's existing facility is regulated under The Environmental Permitting (England & Wales) Regulations 2016 under Permit No. EPR/BM4945IW, as varied. The Facility will utilise some areas of the existing BRM facility, including the access road, weighbridge and gatehouse in the north of the existing BRM facility.

This Application SCR is required to provide information on the site condition at the commencement of the permitted operations and is intended to demonstrate that BRM has appropriate measures in place to protect the land and groundwater and that these will be maintained throughout the operational lifetime of the permit.

The SCR is intended to be a 'live' document (or file) to be maintained from permit issue throughout the operational lifetime of the permitted installation, and then throughout subsequent decommissioning phases and clean-up activities, until the site is deemed to be in a "satisfactory state", i.e., that there are no remaining pollution risks to land or groundwater resulting from the operation of the installation. At this point a Surrender SCR can be submitted to the Environment Agency to support an application to surrender the permit.

This Application SCR has been undertaken in general accordance with Environment Agency, H5 Site Condition Report Guidance (v3, May 2013)[1]. In accordance with the H5 guidance, Sections 1 to 3 have been completed for the permit application stage within this SCR. The operator is required to maintain Sections 4 to 7 during the operational phase of the permit, and Sections 8 to 10 are required to be completed as part of an application to surrender the Environmental Permit.

1.2 Site Details

Table 1.1 Site Details

Item	Detail
Name of the applicant	Britannia Refined Metals
Activity address	Britannia Refined Metals E-Scrap Facility. Manor Way, Northfleet,

[1] Environment Agency (2013) Guidance for applicants H5, Environmental Permitting Regulations, Site condition report – guidance and templates. [online]. Available at: https://www.gov.uk/government/publications/environmental-permitting-h5-site-condition-report.

Item	Detail
	Gravesham Kent DA11 9BB
National grid reference	561209, 175806 (TQ612758)
Document reference and dates for Site Condition Report at permit application and surrender	• Application SCR: Britannia Refined Metals Ltd, E-Scrap Facility, Northfleet, Environmental Permit Application Site Condition Report (Ref. 808678-WOOD-ZZ-XX-RP-OC-00001_S3_P02- The Site Condition Report), October 2022.
Document references for site plans (including location and boundaries)	Plans showing the site location & installation boundary, the proposed layout, and the indicative drainage layout are provided as follows: • Figure 1.1 Site Location • Figure 1.2 Installation Boundary The indicative installation site layout and drainage arrangements, including a plan showing drainage catchments, are shown in **Appendix A.** The plans are indicative only at this stage and will be replaced on BRM's SCR file with as-built drawings once these are available.

Figure 1.1 Site Location

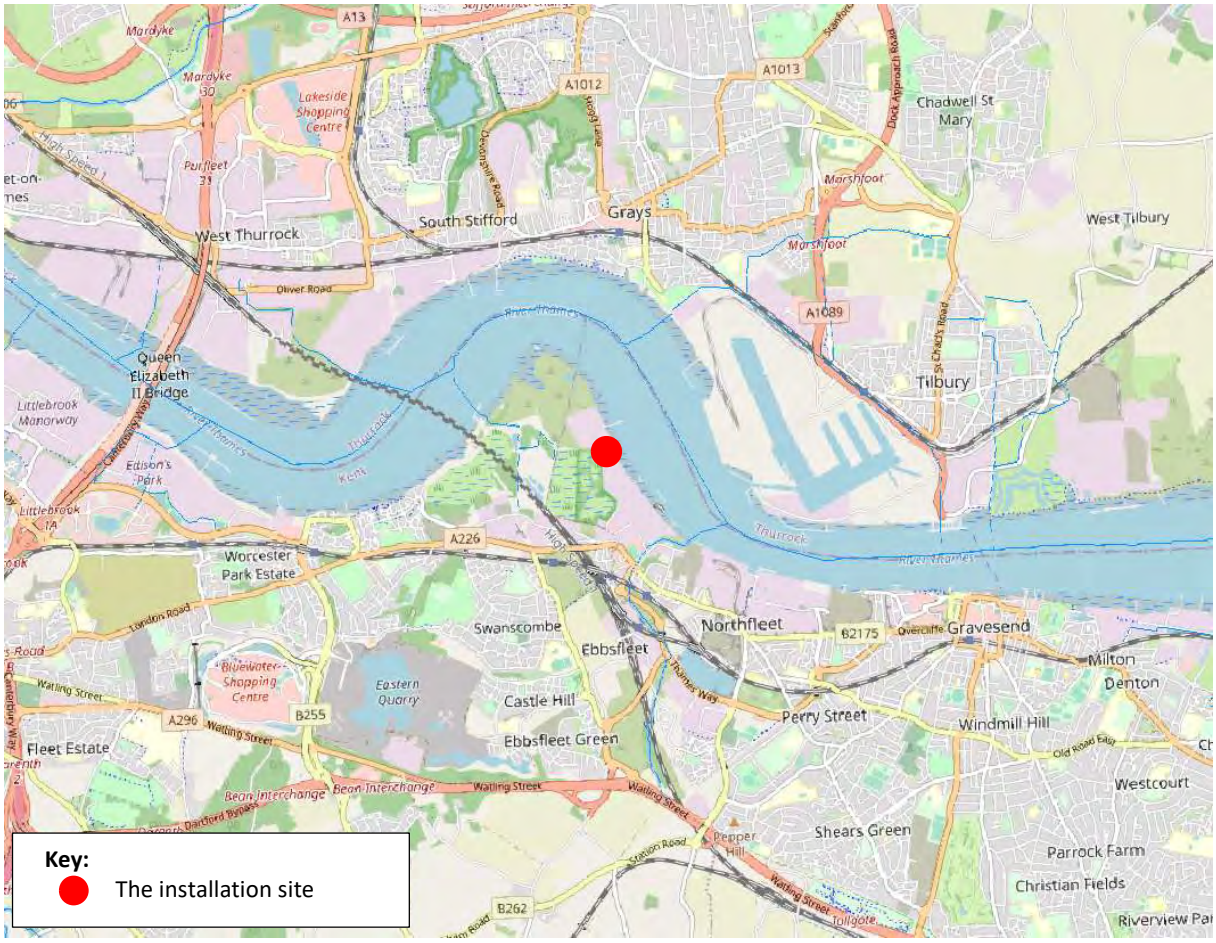
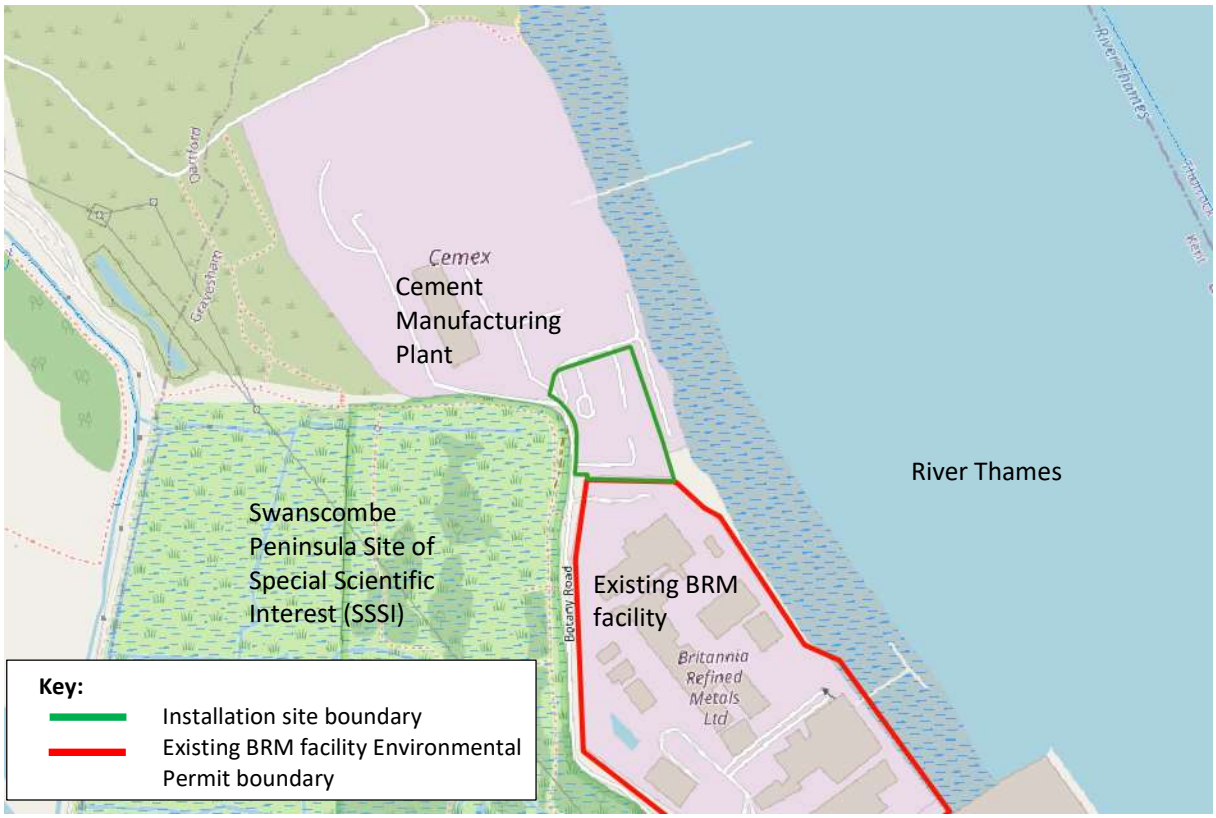


Figure 1.2 Installation Site Boundary



2. Condition of the Land at Permit Issue

2.1 Introduction

Information presented in this section has been obtained from sources including:

- British Geological Survey (BGS) GeoIndex, available at: https://www.bgs.ac.uk/map-viewers/geoindex-onshore/.
- Defra MAGIC Interactive Map, available at: https://magic.defra.gov.uk/.
- Environment Agency Catchment Data Explorer, available at: https://environment.data.gov.uk/catchment-planning/.
- Environment Agency Flood Map for Planning, available at: https://flood-map-for-planning.service.gov.uk/.
- Groundsure report reference GS-8390085, dated December 2021 (presented in the Phase 1 Geo-Environmental Desk Study, detailed below).
- Previous site reports:
  - Wood (2022) Britannia Refined Metals Ltd, E-Scrap Sampling Plant: Area 4, Phase 1 Geo-Environmental Desk Study (February 2022) (Ref. 807346-WOOD-XX-XX-RP-O-00002_S2_P02) (included as **Appendix B** to this SCR).
  - Wood (2022) Britannia Refined Metals Ltd, Area 4 Ground Investigation, Factual Geo-Environmental Ground Investigation Report (Draft – September 2022) (Ref. 808678-WOD-ZZ-XX-RP-OG-00001_S0_P01) (included as **Appendix C** to this SCR).

2.2 Condition of the Land at Permit Issue

Table 2.1 Condition of the Land at Permit Issue

Item	Detail
Environmental setting including:	
Area	The site covers an area of approximately 1.1 hectares (ha). Access to the installation site can be obtained via the existing access point into the BRM site to the south, off Manor Way.
Topography	The installation site is generally flat at an elevation of 4.6 to 6.0m above Ordnance Datum (AOD). The southern, vegetated portion of the site lies on a slightly elevated platform with elevations of 5.5m to 6.5m AOD and dropping down to 4m AOD at the southern boundary of the site into an existing drainage swale which has a channel bed at a level of between 3.0 and 3.5m AOD. The final levels of the installation site following construction of the installation are to be confirmed.
Site surfacing	The ground surface of the installation site will become approximately 93% impermeable post-construction. All operational areas will be constructed on hardstanding. This will be a combination of

Item	Detail
	concrete slabs, hardstanding and access roads, with landscaping. Plans showing the indicative layout of the installation site, site surfacing and drainage layout are included in **Appendix A**. The current site surfacing (pre-construction of the installation) is mainly permeable material. The existing ground cover is a mixture of gravel, compacted hardcore, with scrub and rough vegetation in the south of the site, landscaped areas (grassed with some trees), gravel and compacted hardcore in the north, a small amount of asphalt hardstanding near the centre of the site and buildings. Approximately 20% currently comprises hardstanding and buildings, but as above the installation site will be resurfaced for the installation. Four buildings in the northern portion of the installation site, comprising a single-storey brick office building, a steel clad/framed storage building and a precast concrete walled, steel roof garage, also a small brick structure for BRM's telemetry, will all be demolished prior to construction of the installation.
Geology	**1:50,000 scale geological mapping** British Geological Survey (BGS) 1:50,000 scale mapping on the BGS GeoIndex shows the installation site and the surrounding area along the banks of the Thames to be underlain by superficial deposits comprising alluvium (clay, silt, sand and clay). BGS 1:50,000 scale mapping also shows the entire installation site and surrounding land along the River Thames as being located on artificial ground (undifferentiated). Bedrock beneath the installation site and in the surrounding area is chalk comprises of the Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation (Undifferentiated). **BGS borehole records** Only confidential logs are available on the installation site on the BGS GeoIndex. Logs are available for the surrounding area and from a previous ground investigation[2] on land south of the installation site, these are summarised in the Wood (2022) Phase 1 Geo-Environmental Desk Study[3], and a summary of the geological sequence recorded is provided in the table below based on this information.

Strata	Description (surrounding area)	Average thickness
Topsoil	Present in grassed, vegetated and landscaped areas. Typically sandy gravelly clayey soils with roots and rootlets.	Not known.
Made Ground	Sandy gravelly cobbles of angular brick, concrete and clinker which is consistent with fill for land raising. Also, some clays, silts and gravels being encountered as well as siliceous clasts and 'slag'.	Between 1.7 and 3.4m
Superficial Deposits	Typically sand and peat, silt, sand and gravel and silt and clay, as well as tidal river or creek deposits of clay and silt. South of the site the alluvium was described as very soft, locally soft, occasionally locally firm silty,	To the south observed to be between 11.0m and 11.8m thick. The base was encountered at -8.4m to -10.75m AOD.

[2] Amec Foster Wheeler, Britannia Refined Metals Limited, Water Storage Tank & Silver Plant Baghouse Development, Ground Investigation Report, July 2017.
[3] Wood (2022) Britannia Refined Metals Ltd, E-Scrap Sampling Plant: Area 4, Phase 1 Geo-Environmental Desk Study (February 2022) (Ref. 807346-WOOD-XX-XX-RP-O-00002_S2_P02).

Item	Detail

	locally sandy, locally gravelly clay with occasional organic remains and bands of peat.	
Boyn Hill Gravel Member	BGS mapping indicates that Boyn Hill Gravel Member outcrops approximately 750m to the south-east of the site. The ground investigation on the adjacent site to the south indicates that this member underlies the alluvium. Boyn Hill Gravel Member is described in BGS mapping as sand and gravel. Encountered locally as a medium to dense, locally very loose and locally very dense, silty, sandy gravel or gravelly sand with localised clay lenses/beds.	6.9 to 9.1m to the south
Bedrock: Chalk	BGS data details the bedrock at the site as comprising the Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation (undifferentiated). Ground investigation from the adjacent BRM site to the south describes the chalk as follows: *structureless chalk recovered as slightly sandy silty GRAVEL passing into compacted off white sandy gravelly silt with depth. The clasts are described as very weak to weak, low to medium density off-white with black speckling, and the matrix is described as off-white to yellowish orange.*	Regional scale BGS cross sections and borehole records indicate the chalk is over 100m in thickness. The adjacent ground investigation identified the top of the chalk at approximately 21.5m bgl (-16.6m AOD).

Ground investigation, 2022 within the Installation Site
A ground investigation was undertaken subsequent to the Wood (2022) Phase 1 Geo-Environmental Desk Study and this generally confirms the geological sequence above, with the exception that made ground on the installation site was found to extend to a maximum thickness of 5m. The Chalk bedrock was encountered at depths of between 20.5m and 23,8m bgl on the installation site.

The scope of the ground investigation completed in 2022 is detailed below. The complete factual ground investigation report is included as an appendix to this SCR in **Appendix C**.

The scope of the 2022 investigation is summarised below:.

- Drilling of six percussive/rotary boreholes (BH101 to BH106) to a maximum depth of 40.5m bgl sufficient to allow drilling into the top of the chalk bedrock by rotary follow-on and recovery of chalk cores.
- Installation of five dual wells in the boreholes for groundwater monitoring and one for gas monitoring (BH103).
- Six window samples to a maximum depth of 6.0m bgl, installation of five dual wells at these locations for gas monitoring.
- Four trial pits excavated to a maximum depth of 4.0m bgl.
- Five hand dug pits to a maximum depth of 1.2m bgl
- Survey of the completed locations to National Grid Coordinates and Ordnance Datum elevation.
- Chemical analysis of soil samples.
- Two rounds of groundwater level monitoring using an oil interface meter.
- Tidal monitoring of wells installed in the Boyn Hill Gravels to check for tidal influence.
- Two rounds of groundwater sampling.
- Four rounds of gas monitoring.

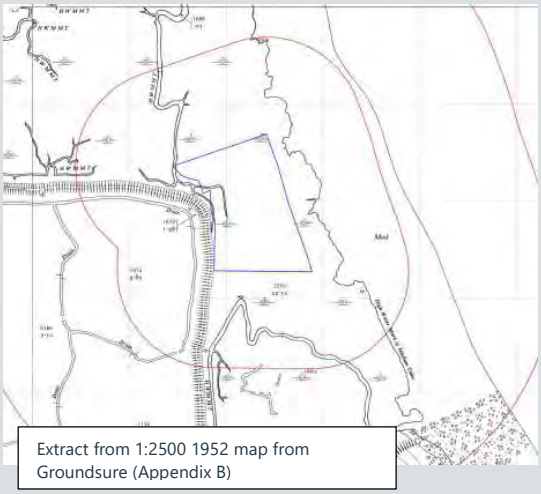
Item	Detail
	The ground conditions encountered generally confirmed the anticipated geological sequence, and these are summarised below. The ground investigation locations are shown in **Figure 2.1** in **Section 2** of the SCR, and in the report in **Appendix C**. **Topsoil** Topsoil was present in the north and north west of the site within WS101, WS102 and TP102 generally comprised a friable light brown slightly gravelly sandy clay with frequent roots and rootlets. Gravel comprised brick and flint. **Made ground** Made Ground was encountered across the site in all exploratory locations to depths of between 0.70m and 5.00m bgl. The made ground primarily comprised clayey sandy GRAVEL or clayey gravelly SAND with the gravel comprising brick, concrete, ceramic fragments and siliceous material. **Alluvium** Underlying the made ground across the site, alluvial deposits were encountered to depths of between 15.00m (BH106) and 21.60m bgl (BH105). Soils generally comprised very soft to soft dark grey silty clays with organic matter and dark grey clayey sands. Dark grey clayey silts with organic material were encountered within BH105 between 9.50m and 12.00m bgl. Peat was present within BH102, BH103, BH104 and BH106 from depths of between 8m-10m bgl to depths of between 9.50m and 12.90m bgl and can be described as dark brown plastic fibrous and pseudo fibrous peat. Pockets and lenses of peat were observed within BH101C, BH103, BH104, BH105 and BH106 from depths of between 5.00m and 13.80m bgl to depths of between 14m and 21.60m bgl. **Boyn Hill Gravel Member** Underlying the alluvium, the Boyn Hill Gravel Member was encountered at depths between 15.00m (BH106) and 21.60m bgl (BH105) with thicknesses ranging between 1.9m (BH105) -6.70m (BH104). The soil generally comprised of medium to very dense very sandy gravel of flint and siliceous material. **Chalk Group** Chalk was encountered underlying the Boyn Hill Gravel Member from depths of between 20.50m (BH106) and 23.80m bgl (BH101) to a maximum investigation depth of 40.50m bgl (BH102). The base of the chalk was not proven. Initially the soils generally comprised structureless chalk composed of a cream slightly sandy, slightly silty GRAVEL to depths of between 29m and 33m bgl. Structured chalk was encountered underlying the structureless chalk to a maximum depth of 40.50m bgl and generally comprised weak, low to medium, becoming high within BH101C, density, cream chalk with frequent black specks, orangish brown staining and occasional flint cobbles present. Discontinuities are randomly orientated, very closely spaced infilled with cream silt.
Hydro-geology	As described above, the installation site is underlain by superficial and bedrock aquifers, as follows: • The alluvium is classed as a secondary (undifferentiated) aquifer. • The Boyn Hill Gravel Member is classed as a secondary (undifferentiated) aquifer. • The chalk is classed as a principal aquifer. Groundwater in made ground on the installation site has no classification.

Item	Detail
	The MAGIC interactive map shows that groundwater vulnerability at the installation site is medium to high, with soluble rock risk, and the installation site lies in an area where the Environment Agency holds additional local information affecting vulnerability. The Phase 1 Geo-Environmental Desk Study identifies that the superficial aquifer has a high infiltration (leaching) value. According to the MAGIC interactive map, the site lies within a groundwater Source Protection Zone III (Total Catchment). The site lies 256m north of a Zone II (outer SPZ catchment). The Groundsure report in the Phase 1 Geo-Environmental Desk Study records one licensed abstraction situated within 1km of the site. This is located 199m northwest of the installation site and is held by Cemex UK Materials Ltd for mineral washing and has a maximum daily volume of 105m^3. The database does not include details of which aquifer the abstraction is from. There are a number of drainage ditches in the vicinity of the site including on the southern boundary.. Groundwater flow direction in the secondary aquifer at the site is not known but it is likely to be influenced by the variability of the soils, which may result in there being no single piezometric surface, instead water levels and flow may be localised. The flow may be influenced by the local topography, which is lower to the west (marshes and SSSI) and water may flow from the site to the west. The flow in the secondary aquifer will also be influenced by the flood wall and river wall which are sheet piled to an unknown depth. The walls have the potential to divert the water flowing towards it to the north and the south. Given the distance of the nearest groundwater abstraction from the site, and the low abstraction volume, this abstraction is unlikely to have significant influence on groundwater flow direction at the site. The groundwater within the chalk is identified under the Water Framework Directive under the name West Kent Darent and Cray Chalk. Data for the year 2019 indicate this body is classified as poor for chemical quality and the groundwater body has a poor overall rating. The site is not situated within a Nitrate Vulnerable Zone (NVZ). **Groundwater encountered during the 2022 Ground Investigation** Groundwater was encountered across the site in made ground, alluvium and the Boyn Hill Gravel Member. Most of the wells installed within made ground were dry during monitoring. Data loggers were installed within the boreholes and showed groundwater within the Boyn Hill Gravel Member to be tidally influenced. The alluvium and the Boyn Hill Gravel Member are both classed as secondary (undifferentiated) aquifers.
Surface water (hydrology)	The River Thames is approximately 20m east of the installation site and is transitional water at this point. According to the Groundsure Report included in **Appendix B**, the Thames Middle was assigned an overall rating of Moderate by the Environment Agency in 2019 (chemical – fail, ecological – moderate). A ditch / swale is present immediately south, running west to east and then southeast within the existing BRM facility adjoining the installation site, and this is classed as an inland river by the Environment Agency, and which is not tidally influenced under normal conditions. A number of inland rivers are located within approximately 30m to the west and southwest of the installation site within the Swanscombe Peninsular Site of Special Scientific Interest (see **Sensitive land uses** below). It is not anticipated that there is a significant flow within these water features, and it is likely that they the either drain to land or to the River Thames.

Item	Detail
	There are no significant discharges to controlled waters[4] located within 500m. Records of discharges indicate they are revoked or lapsed or they enter the River Thames. The installation site is in a flood risk area, in zones 3[5] and 2[6]). The Environment Agency Flood Map shows most of the installation site in flood zone 3, and the remainder in zone 2. The installation site is in an area benefitting from flood defences. An Environment Agency flood defence wall runs along the western bank of the tidal River Thames to the east of the installation site.
Site drainage	Prior to construction of the installation, the surface water drainage at the installation site (and the surrounding area) was noted to be modified by a network of artificial surface water, the installation site also had foul drains, soakaways and septic tanks. No detailed plans of the drains are available. Drainage features observed during the 2021 walkover for the Phase 1 Geo-environmental Desk Study include: • A drainage ditch (also referred to as a swale) is present to the south of the site, this was overgrown with vegetation. • In the carpark area in the northwest of the site there were two channels directing surface water from the roads to a chamber. These were assumed to be soakaways as no other formal drainage features were identified. • A septic tank was recorded to be in the southeast of the site serving the southern area. Foul drains from the northern portion of the installation site were reported to run to septic tanks that may have been leaking into drainage according to previous reports. The septic tank on the installation site was reported to be in the grassed area, in the western corner of the site. • Anecdotal evidence provided by BRM suggested that surface water gullies that should drain water from the west part of the site towards the marsh area to the west, were blocked and causing surface water flooding adjacent to the building during heavy rain. The surface drainage system for the installation will be entirely new, and all existing drains will be decommissioned. The new system for the installation is detailed in Section 3 and plans showing the indicative drainage layout and drainage catchments for the installation are presented in **Appendix A**.
Sensitive land uses	According to the MAGIC database, 8m west of the site is the Swanscombe Peninsula Site of Special Scientific Interest (SSSI), the site was recently designated as an SSSI based on its geological and biological features. This is a relatively large site (259.44ha) with a corridor of habitats connecting Ebbsfleet Valley with the southern shore of the River Thames between Dartford and Gravesend. Industrial land uses in the area such as engineering, power generation, landfill and dredging have left a legacy of low nutrient and subsurface contaminants which have developed into bare open ground habitats with low scrub cover. The peninsula also supports wetland, grazing marsh and saltmarsh habitats. These habitats, coupled with a mild climate, provide ideal conditions for certain species and assemblages of plants, invertebrates (species including rare bees, wasps and a critically endangered jumping spider) and breeding birds. The boundary also includes four chalk pits. BRM's land ownership includes some of the SSSI however the installation site is not within the designated area.
Pollution history including:	
Pollution incidents that	No pollution incidents impacting land or water are recorded by BRM or the Environment Agency to have taken place on the installation site during its historical use. The Phase 1 Geoenvironmental Desk

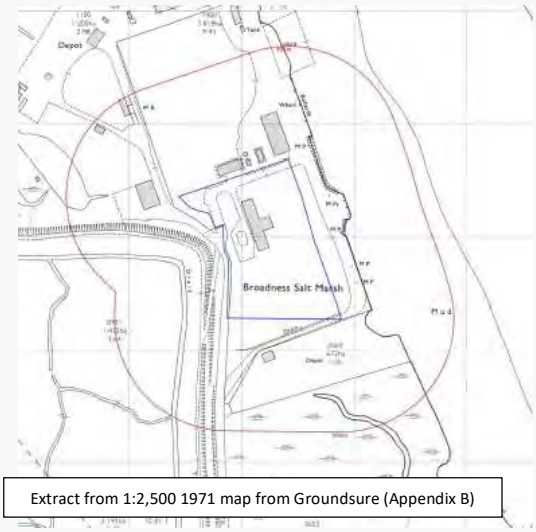
[4] Groundsure Report, Reference GS8390086, December 2021
[5] Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea.
[6] Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding.

Item	Detail
may have affected land	Study identifies potential sources of contamination including fuel storage tanks, waste oil tanks, made ground and a potential historical burning ground/waste disposal pit. The identified sources are being targeted in a Phase 2 Ground Investigation[7] which will allow baseline soil and groundwater data to be collected, and which will also confirm whether any remediation is needed to address any unacceptable risks to human health, property (including buildings and services) or the environment. The Groundsure information included in the Phase 1 Geoenvironmental Desk Study (**Appendix B**) records no pollution incidents on the installation site or within 500m that impacted land.
Historical land-uses and associated contaminants	The historical development of the installation site is summarised below based on historical maps included in the Phase 1 Geoenvironmental Desk Study, included as **Appendix B**. The images below and the maps in the Groundsure report use an older boundary line than the current installation site boundary however these provide full coverage of the installation site. Historical Map Summary

Map	Description
 Extract from 1:2500 1952 map from Groundsure (Appendix B)	**1952 Map** **Onsite:** Prior to development, the installation site is shown as saltmarsh at the edge of the River Thames. There is a channel where the high-water mark for medium tides entered the site on the western side. **Offsite:** The surrounding land is undeveloped saltmarsh and an embankment is present at the western boundary.

[7] Wood (2022) Britannia Refined Metals Ltd, Area 4 Ground Investigation, Factual Geo-Environmental Ground Investigation Report (Draft – September 2022) (Ref. 808678-WOD-ZZ-XX-RP-OG-00001_S0_P01).

Item	Detail



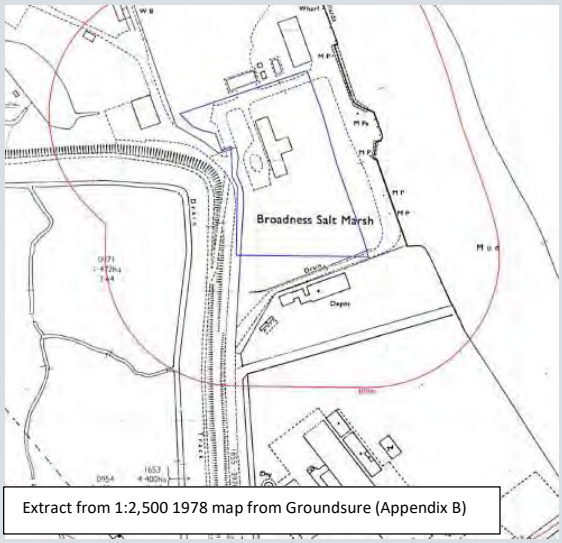
Extract from 1:2,500 1971 map from Groundsure (Appendix B)

1971 Map

Onsite: The first development is shown. The footprint of a main building, turning circle and access road are shown. Access to the building is from the east. A drain is shown crossing the south-east corner of the site.

Offsite: What is now the Cemex cement works to the north of the installation site was developed concurrently with the northern portion of the installation site including the main building. The boundaries and road layout suggests the installation site was part of the works to the north. A tank is depicted approximately 150m north of the installation site boundary. None of the buildings are labelled but the site immediately north appears to have boundary walls separating it from the Cemex works which at this time lay further to the north.

The BRM site to the south has not been developed at this time. The wharf and river wall has been constructed. A small depot is located 30m beyond the southern boundary.



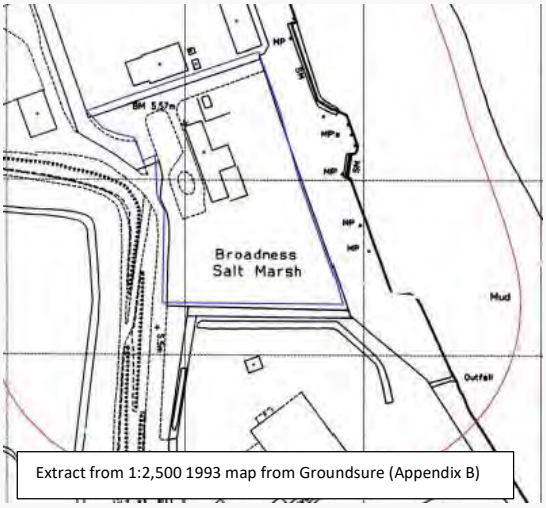
Extract from 1:2,500 1978 map from Groundsure (Appendix B)

1978 Map

Onsite: No change is shown.

Offsite: The depot south of the site is significantly larger and the development of the BRM site to the south is now evident. This includes a chimney.

Item	Detail

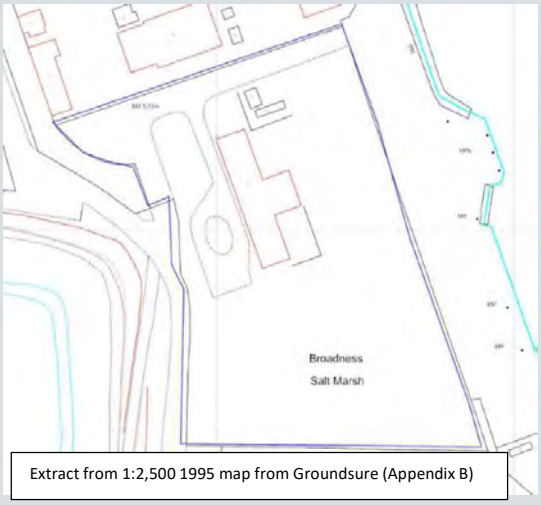


Extract from 1:2,500 1993 map from Groundsure (Appendix B)

1993 Map

Onsite: There is an additional building in the north of the installation site and the road layout has been adapted, indicating the installation site has been separated from the site to the north. Additions to the existing building onsite are now shown; these appear to be walls and potentially an extension to the existing building. Although not described on the map, the drain in the south of the installation site has been re-aligned to correspond to the line of the southern boundary.

Offsite: One of the small buildings on the boundary to the north of the installation site is no longer present and the depot adjacent to the southern boundary is also no longer present.



Extract from 1:2,500 1995 map from Groundsure (Appendix B)

1995 Map

Onsite: An additional structure is depicted in the north of the installation site.

Offsite: There are two additional buildings adjacent to the northwest corner of the site. There is a large additional building depicted in the north of the main BRM site.

Item	Detail

Extract from 1999 aerial photograph from Groundsure (Appendix B)

Getmapping Plc Aerial Photography 1999

Onsite: The southern portion of the installation site appears unused except for a track to the southeast corner where there is some disturbed ground. There are some structures along the eastern boundary in the northern portion of the installation. The long building shown on mapping in the north of the installation site adjacent to the garages/storage building is not visible in the aerial photo indicating it may have been removed/demolished.

Offsite: The site to the north appears to be separate to the Cemex works which are further to the north. Its use is unknown, however, the 2003 map labels it as a depot. The site to the north appears to share an access road with the installation site. The wharf to the east of the installation site is used but not extensively; the southern half of this area is still grassed over at this time.

Extracts from 2004 aerial photograph from Groundsure (Appendix B)

Getmapping Plc Aerial Photography 2004

Onsite: The steel storage building is now present in the north of the installation site. The area where the caravans are situated has been constructed. More activity in the southern portion of the site along the eastern boundary; this appears to be storage.

Item	Detail

The track in the east of the site is more prominent and there appears to be a pit in the southeast corner of unknown use.

Offsite: The site to the north appears to be in use for external storage.

Extracts from 2004 aerial photograph from Groundsure (Appendix B)

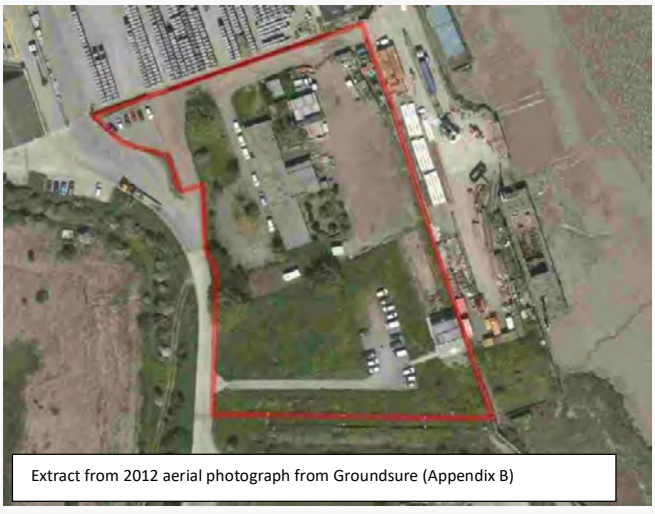
Getmapping Plc Aerial Photography 2012

Onsite: The southern portion of the installation site has been developed. This includes the access road and three bank of cabins in the east of the installation site as well as a change to the ground cover to the north of the cabins. The northern lorry parking area appears to have been resurfaced and some of the structures along the eastern boundary are no longer present.

The pit in the south of the installation site is no longer visible and appears to be infilled and is grassed over.

The diesel fuel and waste oil tanks are present in the north of the installation site.

Offsite: No significant changes



Extract from 2012 aerial photograph from Groundsure (Appendix B)

Item	Detail

Extract from 2018 aerial photograph from Groundsure (Appendix B)

Getmapping Plc Aerial Photography 2018

Onsite: The installation site is broadly similar to the present (pre-development of the installation).

Offsite: The offsite layout is broadly similar to the present.

Site history summary and pertinent features relating to Land Quality

First available mapping from the 1860s shows the installation site was marshland at the edge of River Thames. During the 1970s, the installation site, and surrounding land to the north and south, was reclaimed by land raising and filling, made ground is therefore present across the site. The installation site appears to have been associated with the cement works to the north and later separated in the early 1990s. The installation site was leased by a third party from 1999 to 2009 for use as a marine engineering wharf.

The recent use of the installation has included the storage and maintenance of lorries, which took place in the east of the northern portion of the installation site. The northwest of the installation comprised an access road, carpark and landscaping. The southern portion of the installation site was used for the storage and maintenance of equipment related to marine piling, including a range of mechanical marine apparatus, plant, boats, hydraulic cables, tanks, drums, a bulk fuel tank (4,500 litres) and bulk waste oil tanks (two 500 litre tanks). The use of mobile fuel bowsers and storage and handling of small fuel (20 litres jerry cans) and oil containers (from 25 litres to 205 litres drums and 1,000 litre intermediate bulk containers [IBCs]) for engine and heavy lubricating oils and greases and hydraulic oil also took place. Small-scale chemical storage also took place, mainly in the northeast of the site, including marine paints (potentially containing tributyltin [TBT]), fibre-glass resin, ad-blue, and anti-freeze. An electrical transformer was present in this area at the eastern boundary. Storage of waste (such as metal and wood) took place in the south of the site. Although no fires are recorded to have occurred at the site a potential waste disposal/burning ground was observed in the southeast corner of the installation site. These activities are described in more detail in the Phase 1 Geo-Environmental Desk Study (**Appendix B**). Potential sources of historical contamination at the installation site are detailed below.

Summary of Potential for Historical Contamination at the Site

Source	Potential Contaminants	Notes and location on the installation site
Onsite sources		
Fuel Storage Tanks	Fuel hydrocarbons	Hydrocarbons (diesel) stored in above-ground tanks in the northeast

Item	Detail

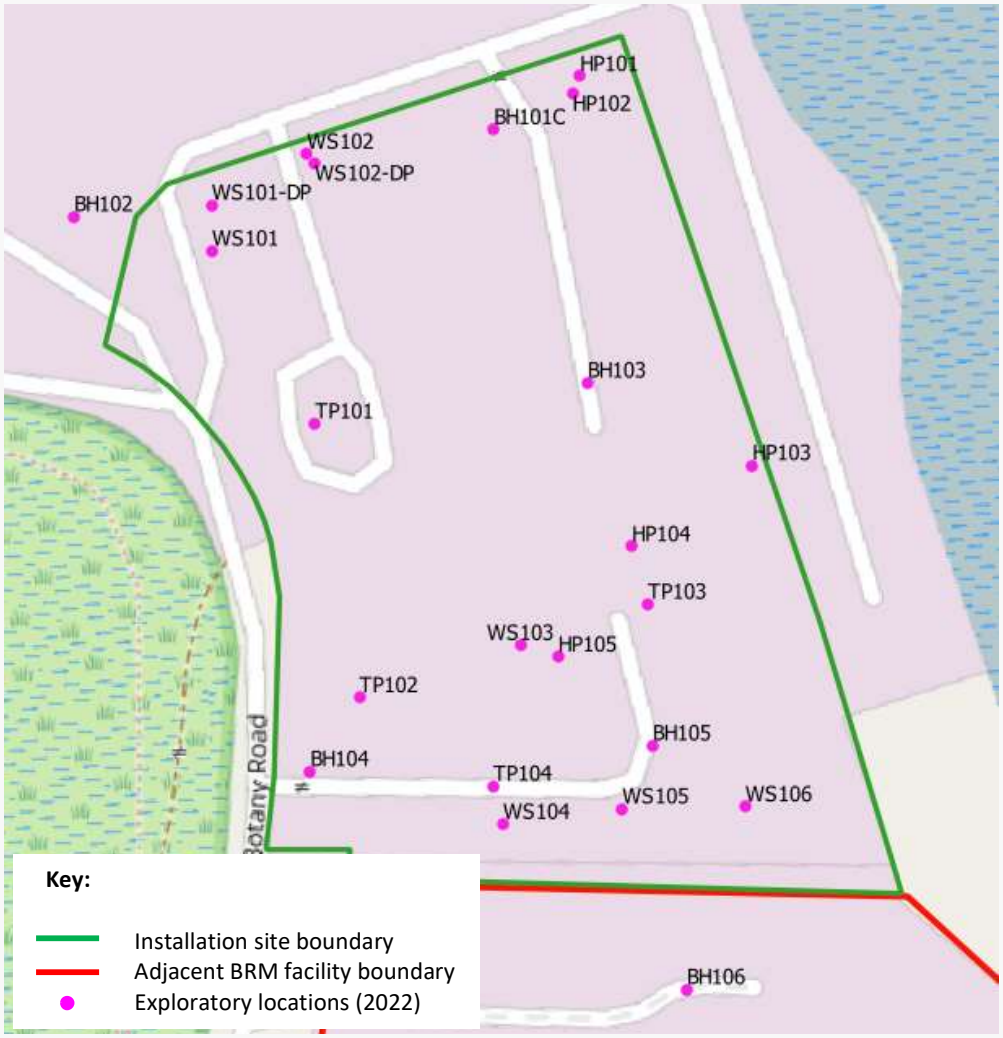
Waste oil tanks	Oil	Hydrocarbons (waste oil) stored in two above ground tanks in the northeast
Workshops/ Stores / COSHH / Vehicle washdown / Vehicle parking	Petroleum products, oils, lubricants, solvents, detergents, paints, antifreeze	Widespread and sporadic use of substances in all areas of the site including on soft permeable ground. Vehicle washdown in the northeast of the site.
Electrical transformer/switch gear	Oil, polychlorinated biphenyls (PCBs)	No evidence of loss of oils to ground and small scale. Low volume source and PCBs have low mobility in soil.
Soakaways, septic tanks and drainage	Oils, fuel hydrocarbons, metals, pathogens	Drainage system potentially incorporates soakaways and interceptors but this is not confirmed. Previous reports describe the potential for compromised drainage integrity and a leaking septic tank (the presence of which is to be confirmed).
Made ground and infilled ground	Metals, polycyclic aromatic hydrocarbons (PAHs), petroleum hydrocarbons, asbestos, ground gas	Land raising and infill result in potential for contaminants in made ground across the site. Slag and ash identified in made ground to the south which is consistent with cement works operations or burning. Land on the installation site was reclaimed concurrently with surrounding land to the north (cement works) with the BRM main site to the south being developed a couple of years later but it is likely that the made ground has similar constituents/source material.
Waste storage/transfer	Metals, PAHs, petroleum hydrocarbons, asbestos	Waste may have been stored sporadically across the site as well as in locations identified during the walkover.
Demolished buildings	Asbestos	Buildings on the site known to contain asbestos. No evidence of demolished buildings and structures on site however potential for demolition material in fill onsite.
Burning ground/burial pit	Metals, PAHs, asbestos, dioxins and furans, ground gas	Suspected feature in the southeast corner of the installation site.
Contaminants in the surrounding industrial land are likely to be similar to those onsite, and to include heavy metals and hydrocarbons.		

A targeted Phase 2 ground investigation was completed in 2022 to enable the collection of baseline soil and groundwater data in relation to the sources identified, and to support the planning application associated with the installation. The reports produced for planning purposes will assess whether any remediation is required to address potentially unacceptable risks to receptors including site users, environmental (including groundwater, surface water and sensitive ecological sites) and property (buildings and services). The interpretative report on the ground investigation in 2022 is in progress, and this will assess whether the installation site is suitable for the intended use as the installation or whether any remediation is needed. If remediation is needed, the baseline data

Item	Detail
	reported below in the **Baseline soil and groundwater reference data** may need to be updated (e.g. to reflect the removal of contaminated soils during remediation). The installation site is bounded to the north by a cement works operated by Cemex, to the east by industrial land owned by BRM and used by a tenant (CRM), and to the south by the existing BRM installation, which is regulated under Environmental Permit No. EPR/BM4945IW and is used to produce commercial grade refined lead. The installation site and surrounding land have been subject to historical land reclamation / land raising and have been in industrial use since the 1970s and there is therefore some potential for contaminants released to ground historically, or present in made ground, to have migrated vertically or leached to reach groundwater, and there may be potential for on and offsite migration of contaminants via groundwater movement.
Any visual/ olfactory evidence of existing contam-ination	Walkover was undertaken in December 2021 for the Phase 1 Geo-Environmental Desk Study (and prior to development of the installation) and no significant surface staining by fuels or oils was observed. Hummocky ground was present in the south of the site with visible concrete and brick at surface indicating construction wastes in made ground. Waste storage on soft/permeable ground was observed. All stockpiles and wastes present will be removed during construction of the installation. Suitable materials may be reused on the site during construction of the installation if it is appropriate to do so, and in accordance with legal requirements for duty of care for waste under section 34(7) of the Environmental Protection Act 1990.
Evidence of damage to pollution prevention measures	The Facility will be newly constructed with purpose-built pollution prevention infrastructure above and below ground (including an entirely new drainage system). See **Section 3.2** for details of the proposed measures.
Evidence of historical contam-ination, for example, historical site investigation, assessment, remediation and verification reports (where available)	A ground investigation was commissioned by BRM to provide baseline soil and groundwater information and to support the planning application and design of the installation. The investigation was undertaken in 2022, and only the factual report is currently available. This is summarised below in the **Baseline Soil and Groundwater Reference Data** section. An interpretative report is also being produced to support the planning application for the installation. This will assess whether the installation site is suitable for its intended use as the installation, or whether any remediation is needed. All relevant reports will be retained by BRM on the Site Condition file for the installation in order to reflect any changes to the baseline information presented in this report.
Baseline soil and groundwater reference data	A ground investigation was completed in 2022, the scope of which is detailed below. The complete factual ground investigation report is included as an appendix to this SCR in **Appendix C**. The scope of the investigation is detailed above and included soil and groundwater sampling, the chemical analysis results are summarised below. The chemical analysis suite was designed to address potential historical contamination and to provide baseline for the main potentially polluting substances that will be stored or handled at the installation site (see Section 3). The laboratory certificates of analysis are presented in **Appendix C**. Summary sheets of the soil analysis and groundwater analysis results are presented in **Appendix D**. The soil samples were analysed for a range of contaminants from a suite comprising: • Asbestos including quantification where asbestos was detected in the screening.

Item	Detail
	• Metals and metalloids (antimony, arsenic, bismuth, cadmium, chromium (III), chromium • (hexavalent), copper, lead, mercury, nickel, tin, selenium, and zinc). • Polyaromatic hydrocarbons (PAHs). • pH, cyanide, total organic carbon, ammonium and sulphate. • Volatile organic compounds (VOCs and SVOCs). • Polychlorinated biphenyls (PCBs). • Tributyl tin oxide. • Total petroleum hydrocarbons (TPHCWG including benzene, toluene, ethylbenzene and xylene [BTEX] and MTBE). Groundwater samples were analysed for the following testing suite: • Total Petroleum Hydrocarbons – Criteria Working Group (TPH-CWG). • Speciated polycyclic aromatic hydrocarbons (PAHs). • Benzene, toluene, ethylbenzene and xylene (BTEX). • Volatile organic compounds (VOCs). • pH. • Metals and metalloids: antimony, arsenic, cadmium, chromium (total and VI), copper, • lead, mercury, nickel, selenium, zinc. • Cyanide, sulphate, sulphide, dissolved organic carbon (DOC), nitrate, nitrite, alkalinity, salinity, calcium, and ammoniacal nitrogen. During the ground investigation there was limited visual or olfactory evidence of contamination in the exploratory locations, except for BH101C between 1.00m and 2.00m bgl which had a strong odour of ammonia which dissipated quickly. Headspace readings for the potential presence of ionisable vapours taken with a photo-ionisation detector (PID) were all between detection (<0.1ppm) and 2.60ppm in the made ground across the site. Observations of potential contaminants were limited to rare to occasional ash, clinker, slag and metal fragments in some made ground horizons. There were no visual/olfactory observations of gross contamination. No light or dense non aqueous phase liquid (LNAPL or DNAPL) was recorded by the oil interface meter during the groundwater monitoring. The ground investigation locations are shown below in **Figure 2.1** and in **Appendix C**.

Figure 2.1 Exploratory hole locations (2022 ground investigation)



Soil results

A total of 46 soil samples were tested. These were obtained from made ground and natural soils. A summary of the results is provided below.

Soil results: Inorganics, metals and metalloids

Arsenic, boron, chromium, copper, lead, nickel and zinc were recorded in all soil samples at concentrations above the laboratory method detection limits. Antimony, hexavalent chromium, mercury, silver, selenium and tin were present above the method detection limits in some samples. High concentrations of arsenic and lead were observed locally, e.g., arsenic at 650mg/kg in WS103 at 1.60m, and lead at a maximum concentration of 22,000mg/kg in BH104 at 0.40m. A summary table of the results is presented below.

Soil results: Metals and metalloids

Determinand	Units	Number of Samples	Minimum	Maximum
Antimony	mg/kg	43	< 1.0	850
Arsenic	mg/kg	43	4.2	650

Item	Detail

Boron	mg/kg	43	0.3	39
Cadmium	mg/kg	43	< 0.2	11
Chromium (hexavalent)	mg/kg	37	< 1.8	2.5
Chromium (III)	mg/kg	37	6.2	140
Chromium	mg/kg	43	6.4	140
Copper	mg/kg	43	8	510
Lead	mg/kg	43	2.9	22000
Mercury	mg/kg	43	< 0.3	7.2
Nickel	mg/kg	43	4.4	87
Silver	mg/kg	43	< 1.0	210
Selenium	mg/kg	43	< 1.0	17
Tin	mg/kg	43	< 1.0	120

Soil results: Asbestos
Asbestos was detected in 16 samples of made ground, mainly as loose fibres and as loose fibrous debris and bitumen. The types of asbestos identified was mainly chrysotile and anthophyllite, with amosite recorded in one sample. Quantitative asbestos analysis found most samples below the detection limit of 0.001%. The maximum concentration was 0.02% in BH105 at 0.9m. No asbestos containing materials will be handled at the installation site once the E-scrap facility is operational and any risks to human health associated with asbestos will be dealt with through risk assessment and remediation prior to commencement of operations at the installation.

Soil results: Organics
PAHs were recorded above the laboratory detection limits in most soil samples analysed, and all 16 targeted PAH compounds were recorded above the detection limits in one or more samples.

Other SVOCs (non PAHs) were also detected in a small number of samples. These included 4-methylphenol (maximum 3.4mg/kg), 2,4-dimethylphenol (maximum 0.7mg/kg), 2-methylnaphthalene (maximum 2.1mg/kg), 4-chloroaniline (maximum 0.6mg/kg), dibenzofuran (maximum 6.8mg/kg), carbazole (maximum 5.3mg/kg).

No VOCs were recorded in soil samples at concentrations above the laboratory detection limits (typically <1µg/kg).

Two samples were tested for PCBs, no PCBs were identified above the laboratory detection limit of <0.001mg/kg.

Groundwater results
Groundwater samples were obtained from BH101(s – shallow screen), BH101(d – deep screen), BH102(s), BH102(d), BH103(d), BH105(s) and BH105(d) on two occasions, and from BH104(s) and BH104(d) on the second monitoring round only. Samples were obtained using low flow micro purging technique and field parameters including pH, electrical conductivity, redox potential, dissolved oxygen and temperature were recorded.

All groundwater samples were submitted for the same testing suite.

The groundwater pH ranged from 6.8 to 7.6.

A summary of the results for inorganics is below.

Groundwater results: Various inorganics

Item	Detail

Determinand	Units	Number of Samples	Minimum	Maximum
Electrical conductivity	µS/cm	16	3000	42000
Salinity	ppt	16	< 2.0	30
Total Cyanide	µg/l	16	< 10	20
Sulphate	mg/l	16	21	840
Sulphide	µg/l	16	< 5.0	< 5.0
Ammonium - Exchangeable as NH4	µg/l	16	2700	120000
Dissolved Organic Carbon (DOC)	mg/l	16	1.58	48.7
Nitrate as N	mg/l	16	0.03	2.29
Nitrate as NO3	mg/l	16	0.15	10.2
Alkalinity as CaCO3	mg/l	16	420	3400

Most of the targeted metals and metalloids, including boron, chromium, iron, antimony, arsenic, cadmium, copper, lead, manganese, nickel, selenium, tin and zinc, were recorded above detection limits in some or all of the samples, exceptions were hexavalent chromium, mercury and silver, which were not present above their detection limits of <5µg/l,<0.0.5µg/l and <0.0.5µg/l, respectively. A summary table is presented below.

Groundwater results: Metals and metalloids

Determinand	Units	Number of Samples	Minimum	Maximum
Boron	µg/l	16	120	17000
Chromium (hexavalent)	µg/l	14	< 5.0	< 5.0
Chromium (III)	µg/l	14	< 5.0	< 5.0
Iron	mg/l	16	0.015	0.37
Antimony	µg/l	16	< 0.4	21
Arsenic	µg/l	16	0.33	26.1
Cadmium	µg/l	16	< 0.02	0.1
Chromium (dissolved)	µg/l	16	0.5	3.5
Copper	µg/l	16	0.5	7.3
Lead	µg/l	16	< 0.2	4.8
Manganese	µg/l	16	52	2700
Mercury	µg/l	16	< 0.05	< 0.05
Nickel	µg/l	16	1.3	26
Selenium	µg/l	16	< 0.6	66
Silver (dissolved)	µg/l	16	< 0.05	< 0.05
Tin	µg/l	16	< 0.20	1.1
Zinc	µg/l	16	1.9	22

Groundwater results: Organics

The groundwater analysis results show that PAH concentrations below the detection limits (<0.16µg/l total PAH) with the exception of samples from BH104(s) and BH105(s) (second round only). Banded aliphatic and aromatic TPH concentrations were also below the detection limits except for the sample

Item	Detail
	from BH105(s) in the second round, where a total TPH concentration of 250µg/l was recorded, predominantly comprised of long chain aliphatic hydrocarbons, these have limited solubility. The site is adjoined by industrial sites to the north, east and to the south and as such there is potential for groundwater quality beneath the installation site to be affected by contaminants migrating in groundwater. These could include acids or alkalis,, metals, other inorganics and hydrocarbons. **Ground gas monitoring** There will be no potential for the E-scrap facility to cause land contamination that could result in significant levels of ground gas generation. The ground gas results will be considered through appropriate risk assessment to inform the design of the installation, this is outside the scope of this report, and the gas monitoring results are not considered further in this SCR. **Baseline soil and groundwater condition updates prior to commencement of operations at the installation** The installation site will undergo extensive ground works to facilitate construction of the installation and this is likely to result in removal from site, or relocation within the site, of some of the soils present. Changes to the soil could also affect groundwater quality in the longer term (e.g., through the removal of material with potential to leach contaminants to groundwater). The associated earthworks, including reuse of site derived material, offsite disposal or offsite use of site-derived material and use of any imported materials will be carried out in accordance with the CL:AIRE Definition of Waste: Code of Practice (DoWCoP)[8] by using a materials management plan (MMP), which encourages the reuse of both contaminated and uncontaminated materials on their site of origin, subject to these materials being suitable for the intended use. Prior to development of the MMP, a contaminated land risk assessment will be completed in accordance with the Environment Agency Land contamination risk management (LCRM) guidance[9], and if this identifies that remediation is needed, a remediation options appraisal will be completed and a remediation strategy agreed with the regulators. These measure, in conjunction with the MMP, will ensure that following development, as a minimum, the site will not be capable of being determined as Contaminated Land under Part 2A of the Environmental Protection Act 1990, and will therefore not pose a significant risk to human health, property or environmental receptors. In addition to the ground investigation report, any other relevant reports, such as remediation verification reports, produced during the construction of the installation will be kept on file by BRM to inform the baseline site condition.

Supporting information	The following sources of information have been used in this report:
	• Wood (2022) Britannia Refined Metals Ltd, Area 4 Ground Investigation, Factual Geo-Environmental Ground Investigation Report (Draft – September 2022) (Ref. 808678-WOD-ZZ-XX-RP-OG-00001_S0_P01). Includes:
	  ○ Exploratory hole logs
	  ○ Certificates of laboratory analysis for soils and groundwater.

[8] Contaminated Land: Applications in Real Environments (CL:AIRE) (2011) The Definition of Waste: Development Industry Code of Practice Version 2 March 2011. (Online). Available at: https://www.claire.co.uk/projects-and-initiatives/dow-cop/28-framework-and-guidance/111-dow-cop-main-document. Accessed October 2022.

[9] Environment Agency (2020) Guidance: Land contamination risk management. (Online). Available at: (LCRM)https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm. Accessed October 2022.

3. Permitted Activities

3.1 Introduction

Table 3.1 defines the permitted activities to be undertaken on the land that is the subject of this report. Further information on the permitted activities is provided in the Technical Application Report which forms part of BRM's Environmental Permit Application for the installation.

The indicative installation layout is shown in **Appendix A**.

3.2 Permitted Activities

Table 3.1 Permitted Activities

<table>
<tr><th>Item</th><th>Description</th></tr>
<tr><td>Permitted activities</td><td>A complete description of the process is provided in the Technical Application Report. This section provides summary information and details the relevant pollution prevention measures for the prevention of releases to land through the operation of the installation.

Summary Process Description
The installation site will be used by BRM for a facility carrying out the acceptance, shredding and exporting of a limited range of waste streams comprising:
• Wire cables from Automotive Waste *
• Wire cables from shredded Waste Electrical and Electronic Equipment (WEEE)*
• Printed circuit boards *
• Small (shredded) mixed WEEE*
• Smelter grade, metal rich fraction of incinerator bottom ash (IBA). This waste stream is referred to as incinerator bottom Ash (IBA).
*These waste streams are referred to collectively as E-Scrap in this SCR and in the Technical Application Report.

E-Scrap will be treated at the installation site. It will be shredded to enable composite samples to be taken for analysis to determine the fractions of specific metals in the consignment for commercial purposes. All accepted waste streams will be transferred to sealed intermodal containers at the installation and exported to sites operated by Glencore outside of the United Kingdom.

On the basis of the design capacity of the proposed infrastructure, the waste classifications of the E-scrap and the physical treatment (shredding) undertaken, the proposed activities regulated by the Environmental Permitting Regulations 2016 (as amended) are set out at in the table below.

<table>
<tr><th>Waste Stream</th><th>Waste type/classification</th><th>Regulated Activity</th><th>Specified Regulated Activity</th></tr>
<tr><td colspan="4">Main Regulated Activity</td></tr>
<tr><td>E-Scrap</td><td>Hazardous WEEE and automotive Wire
WEEE
IBA</td><td>Section 5.3. Part A(1)(ii)</td><td>Physico-chemical treatment of waste</td></tr>
<tr><td colspan="4">Directly Associated Regulated Activities</td></tr>
</table>
</td></tr>
</table>

Item	Description

E-Scrap	Hazardous WEEE and automotive wire	Section 5.3. Part A(1) (iiii)	Blending or mixing of waste prior to undertaking activities listed in Section 5.3 or in Section 5.1 of the Environmental Permitting Regulations
E-Scrap	Hazardous WEEE and automotive wire	Section 5.3. Part A(1) (iv)	Repackaging of waste prior to undertaking any activities listed in Section 5.3 or Section 5.1 of the Environmental Permitting Regulations
E-Scrap	Hazardous WEEE and automotive wire	Section 5.6	Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any activities listed in Sections 5.1, 5.2, 5.3 and paragraph (b) of Section 5.6 of the Environmental Permitting Regulations.
IBA	Hazardous waste	Section 5.6 (As above)	Temporary storage of hazardous waste with a total capacity exceeding 50 tonnes pending any activities listed in Sections 5.1, 5.2, 5.3 and paragraph (b) of Section 5.6 of the Environmental Permitting Regulations
Copper Scrap (Non Haz WEEE)	Non-hazardous waste and WEEE	Section 5.4. Part A(1) (v)	Section 5.4 (a)(v) and (b)(iv) - Treatment in shredders of metal waste, including WEEE and end of life vehicles and their components
Copper Scrap	Non-hazardous waste		Waste Operation - Metal Recycling Site Metal recycling site - mixed metals
Import and unpacking of imported wastes (as detailed below)			
Monitoring and release of abated emissions to air			
Release of uncontaminated storm water run-off to surface water			
Bagging and loading of wastes for export.			

There will be no chemical treatment of waste at the installation.

The installation will have sufficient capacity to process 25,000 tonnes per annum (tpa) of waste, based on the installation typically importing 25 tonnes of waste per day by heavy goods vehicles (HGVs). All wastes will be imported during weekday daytime hours.

The waste streams will be sourced from suppliers approved by BRM and the Glencore Group. The wastes will typically have been subject to pre-sorting by suppliers to minimise the prospect of non-conforming wastes being transferred to the site.

All waste streams imported to the installation site will be subject to visual inspection to inform the decision to accept the wastes and to enable removal of foreign materials / foreign objects. IBA, and other waste streams that cannot be visually inspected, and that have not previously been accepted at the installation, or wastes transferred from new suppliers, will also be

Item	Description
	analysed before being formally accepted. A waste quarantine procedure will be in place for wastes awaiting acceptance / rejection. Access and egress from the installation site will be via the existing vehicle access point installed at the adjacent facility operated by BRM, south of the installation site. This site is regulated by an Environmental Permit (Ref. EPR/BM4945IW) for lead refining activities. The access point includes security controlled double vehicle gates, a gatehouse and a weighbridge that will used to determine the mass of incoming and outgoing consignments in arriving and departing vehicles. All of these features are located on the adjacent BRM facility to the south and a new bridge over the swale / drainage ditch will be constructed to link the existing BRM facility to the installation site. On arrival at the neighbouring existing BRM facility, waste will initially undergo a radiation screen at the weighbridge, to check for low level gamma radiation (e.g., from smoke detectors). If radiation is detected, the load will not be permitted to enter the installation site and non-conformance / waste rejection processes will be implemented. These are detailed in the Technical Application Report. The activities to be undertaken at the installation site will include the following: • Import, acceptance, storage and transfer from the installation site, of the limited range of waste streams as described above. Wastes will be received and exported as bagged and loose bulk consignments. • Inspection of the documentation for transfer of wastes and physical inspection of the materials before being formally accepted for storage and/or treatment (the installation site will also have facilities for quarantining waste and rejection of waste may take place if the waste does not meet specification). • Shredding of E-Scrap to reduce the size of components received, to enable representative samples to be created for analysis of material precious metal content. Composite samples will be extracted by an automated system during the treatment process. • Bagging or bulk loading of waste, which will be exported from the site in International Organization for Standardization (ISO) containers. • Collection of dusts generated from storage and treatment of the wastes. Air extracted from these areas will be extracted and transferred to a Filter House where a bag filter and another supporting abatement technology to be confirmed will abate dust before release to the environment. The use of a Bag Filter to abate dust from the activities proposed s is regarded as an Appropriate Measure to abate dust emissions. The supporting abatement technique will also be consistent with Appropriate Measures. The dust collected will exported for recovery. • To settle elevated levels of dusts associated with activities such as unloading and bagging wastes, an atomiser misting system and mobile misting system will be operated when required. The atomiser sprays a very fine (water) mist that when it collides with dust particles will increase their density, causing them to settle from the air. No surfactants will be used in the atomiser misting system. The mobile misting system will provide a more dense (water) spray, though this will not be administered at levels anticipated to generate run-off. The activities will not give rise to release of trade or process effluent to water or sewer. Sanitary wastewater will be generated from welfare facilities. This will be retained at site (see Drainage below) and periodically removed for offsite treatment. Surface water run-off from the facility will be released to surface water. Certain activities will be undertaken at an off-site location and are not included in the Installation Boundary. These include the following:

Item	Description

- Analysis of wastes where required to support waste acceptance processes will be undertaken at an off-site laboratory.
- Maintenance of unfixed items of plant and machinery and storage of associated equipment will be undertaken at offsite engineering facilities.
- Business administration.

As the site entrance, exit, weighbridge and gate house are regulated subject to Permit EPR/BM4945IW for the lead refining facility also operated by BRM, these arrangements are also excluded from the installation boundary.

Potentially polluting substances (PPS) associated with the wastes to be handled at the installation

The installation site will accept both hazardous and non hazardous wastes. These are summarised in the table below (and detailed further in the Technical Application Report).

Waste stream types	Waste Type
WEEE waste comprising: Printed Circuit boards Small shredded mixed WEEE	Hazardous waste
Automotive waste – (Segregated WEEE components consisting of Cables/Wiring looms) Large Size/intact Wire cables from automotive waste Small Size/shredded Wire cables from automotive waste	Hazardous or non-hazardous according to source
Wire cables from shredded WEEE	Hazardous or non-hazardous according to source
IBA	Hazardous non-WEEE waste
Copper	Non-hazardous

Contaminants that can be associated with the wastes to be handled at the installation include:

- Metals and metalloids – antimony, arsenic, chromium, cadmium, copper, barium, molybdenum, nickel, vanadium, zinc, lead, mercury.
- Major ions including chloride, sulphate, ammonium.

Trace concentrations of the following are possible in wastes that will be handled at the installation site:

- TPH.
- PAH.
- PCBs.
- Dioxins and furans.
- Brominated flame retardants.

Pollution prevention measures

Site surfacing, access roads and traffic management

To facilitate the movement of vehicles around the installation site and provide pollution prevention for waste transport and other activities external to the main building, a large, impermeable hardstanding area will be constructed, extending around the main building, and covering the majority (~93%) of the installation site. This will include kerbing around the perimeter to form a contained apron for collection of surface water. Asphalt footways will provide pedestrian access to the main building and welfare facility, crossing the reinforced concrete hardstanding at safe locations.

Note: the access road on the adjacent BRM facility, including at the weighbridge and gatehouse, is formed in reinforced concrete slab and will be refurbished prior to operation of the installation.

Item	Description
	Within the installation site, the access roads where waste vehicles will operate will be served by a surface water drainage system which passes through an oil interceptor (two oil interceptors will be present on the installation site – see Drainage below). BRM will produce a traffic management plan for the installation site, and including the vehicle movements carried out on the adjacent BRM facility, to minimise the potential for vehicle collision and environmental incidents. It is currently envisaged that this will require the following measures: • When presenting at the weighbridge, operators will be provided with a radio to enable vehicle movements, loading and unloading activities to be rigorously controlled. • Only one waste carrier will be allowed on site at any one time, to minimise potential for vehicle collision and confusion of waste documentation. • A maximum speed limit. **Main building: bunded area** All waste processing and storage of processed waste will take place within the main building. This will minimise the potential for waste to generate contaminated run-off. The main building will have an impermeable concrete floor constructed to form a bund (with an 8 – 10 cm concrete lip at the walls). No sumps are proposed as the dust suppression 33 sands and operational processes will not generate effluent, Dry cleaning of operational areas will be employed (e.g. sweeping and suction). . Vehicles will reverse into dedicated bays to carry out loading / unloading. Doors at loading / unloading areas will be installed with rapid closing roller shutter doors to minimise escape of dust from the building. The configuration and capacity of storage bunkers for the three categories of waste are not finalised, though the design philosophy supports a flexible approach to determining storing arrangements. It is currently anticipated that concrete legio blocks (flexible concrete construction system of interlocking concrete blocks) will be used for storing waste that will not be blended (individual storage bays). The bays will be installed with the fire detection and protection measures outlined in the Site Fire Prevention Strategy (included in the Technical Application Report). Fixed concrete storage bays will be installed for storing E-Scrap. All bunkers will be clearly identified in terms of: • Waste types that can be deposited in the bunkers. • Total storage capacity and available storage capacity. • Purpose of the storage bunkers, e.g. for quarantined or rejected waste. Further information is provided at Figure 3.2 in the Technical Report. Although all wastes will be subject to visual inspection to confirm suitability for treatment and remove foreign objects, only E-Scrap will be treated in the main building. In summary, treatment of E-Scrap will involve the following activities: • Treatment prior to particle size reduction (shredding): • Foreign materials will be removed during visual inspection. • E-Scrap will then be screened pending storage prior to treatment. • Prior to treatment, E-Scrap will be transferred over a vibrating spreader to support picking for further removal of any foreign objects. • Ferrous metals will be removed using an over-band magnet where required. Particle size reduction of E-Waste will be achieved as follows: • Primary shredding of the E-Scrap will take place in a covered, low speed, high torque shredding unit sized to reduce the particle size of the E-Scrap to <30mm. An

Item	Description

	automatic sampler will be installed at the outlet of the primary shredder to extract representative samples.
	• E-Scrap will be transferred to the second shredding unit. A similar shredding technology will be used for this purpose, though this will be sized to enable the particle size to be reduced further to 6-8mm.
	• Three samples of E-Scrap will be taken from the outlet of the secondary shredder comprising:
	  o Primary laboratory sample, which will be analysed for quality purposes to characterise the commercial value of the consignment.
	  o Secondary laboratory sample will be retained for back/up verification purposes.
	  o A third reserve sample will be retained for contingency purposes (this will be stored in an intermediate bulk container [IBC] within the main building).
	• E-Scrap will then be transferred to the allocated storage bunker where it may be blended with other consignments of E-Scrap, pending removal from the site.
	
	Once processed, wastes will be transferred from the facility in sealed intermodal containers in bagged and in loose form depending on the volume of the specific wastes to be exported and customer requirements. It is currently anticipated that:
	• Baled or waste that is already bagged will be transferred to the Container Loading area. It will then be loaded into the container by a forklift truck.
	• Shredded E-Scrap to be bagged will be transferred from storage bunkers by forklift truck or front end loader to the bagging plant.
	• Shredded E-Scrap to be transferred in loose bulk form will be transferred to the Container Loading Area by front end loaders or forklift trucks.
	• Complex wastes will be transferred in bags to the Container Loading Area by front end loaders or forklift trucks.
	The design of the bagging plant and the container loading system are ongoing and will be confirmed in due course.
	
	The substances stored and handled within the main building will be limited to the authorised wastes / quarantined wastes / product and potentially small containers of grease etc. as may be required to ensure smooth ongoing operation of the fixed and mobile equipment within the main building. Water will be used for dust suppression and cleaning purposes (see further details in **Main building: dust control**).
	
	Storage arrangements within the main building will be clearly identified to differentiate between waste for treatment / handling, waste in quarantine, foreign objects, waste ready for despatch etc.
	
	Main building: dust control
	A potential pathway for release of contaminants to land from the process would be through the release of dust to air from the wastes being stored and handled, or release of dust to the ground in process areas, with subsequent tracking of dust to external areas by vehicle and plant movement, where dust could then become airborne again (due to wind) or be washed into drains by rainwater runoff.
	
	To lower the risk of dust emission, the waste reception area, processing equipment, bagging and storage will be within a weathertight building which will be subject to regular cleaning, using water and collected using a Squeegee, or similar, to a dedicated storage container within the main building. All E-scrap processing equipment is to be connected to the dust extraction system. Dry cleaning will be undertaken for the equipment as appropriate.
	
	The dust extraction system (see **Filter House** below) will treat air extracted from the E-scrap processing equipment by:

Item	Description
	• Primary Abatement via bag filter. • Secondary Abatement using a technology consistent with Appropriate Measures (as defined in the Technical Application Report). Dust arising from the vibrating spreader, picking activities, the primary shredder and sampling arrangements and bagging will be extracted and abated in the bag filter and secondary abatement as outlined above. Dust arising from the secondary shredder and sampling arrangements will be retained in a closed loop system. This arrangement is to provide effective containment of dust and its potentially hazardous constituents including heavy metals and persistent organic pollutants from the E-Scrap. Although an atomiser will be deployed, this will not result in dampening of the E-Scrap, though it is acknowledged by BRM this will give rise to a moderate increase in moisture content. **Filter house (bag filter system)** The filter house will accommodate the bag filter and supporting abatement technology. Dust from the bag filter will be collected in hoppers in a fully sealed system, pending removal offsite by a registered waste carrier for precious metal recovery. **Fuel and oil storage and use** Forklift trucks (FLTs) and front end loaders (FELs) will be used at the installation site to move waste and avoid manual handling wherever possible. These will be electrically powered vehicles and there will be no associated fuel storage. Maintenance of unfixed items of plant and machinery, and site vehicles, will be carried out either on the main BRM site to the south or offsite. Very small quantities of oils and greases may be stored within the installation site for basic maintenance e.g., in a COSHH cabinet in the main building if required. There will be no bulk fuel or oil tanks. **Chemicals** There will be no laboratory for waste testing at the installation site, this will be carried out at an offsite laboratory. Other than small quantities of cleaning fluids for the welfare facilities there will be no liquid chemical storage within the installation site. **Site drainage** **Surface water drainage and oil interceptors** The installation site will have a new surface water drainage system designed to collect rainfall from roofs, concrete and asphalt hardstanding (including site access roads). Surface water will ultimately discharge to the River Thames via an outfall located offsite to the southeast. The drainage system will comprise separate piped systems east and west of the main building, each discharging to precast concrete headwalls to the northern embankment of the existing drainage ditch / swale immediately south of the installation site. The system will rely on gravitational flow by shallow gradient from north to south. Due to the shallow depth of concrete pipes on both east and west runs, all bedding will be type Z with Flexcell filler sheet fully surrounding at all pipe joints. Two SPEL bypass (oil) interceptors have been specified in the design for the installation to manage treatment of up to 80l/s which covers storm events up to 100% Annual Exceedance Probability (AEP) (for their indicative locations on the installation site see Figure 1.3 and the Indicative Drainage Layout Plan in **Appendix A**). Current design information includes two interceptors, one on the east drainage line and one on the west drainage line. These will be

Item	Description
	located within the installation site to the south of the main building. The purpose of the interceptors is to provide a system to remove hydrocarbons that could be released due to vehicle movements at the site, and also to retain settleable dusts and silts washed into the drainage system. Alarm systems for both interceptors will be installed to warn when interceptors are approaching pollutant capacity and require emptying. Emptying will be carried out by a registered waste carrier. **Process effluent** As outlined above, no process effluent will be generated by the activities at the installation site and there will be no process drainage system within the main building. Water will be used for cleaning equipment though equipment will be cleaned using materials rather than hosed and will not generate wash water. The atomiser will release a very fine mist and the mobile misting systems will provide additional capability to control increased dust emissions. The water will be absorbed by the waste and will temporarily increase the moisture content. This will not generate run-off. Given the low level of water charge and the temporary and intermittent use of the atomiser and regular cleaning activities, where liquids or sludges/pastes are produced due to activities within the main building, these will be easily contained and cleaned up and will not have potential to enter the surface drainage system. **Foul drainage** The installation site will not have a connection to foul sewer. Drainage from the toilets and wash basins, sink and basic kitchen facilities in the welfare building in the southeast of the installation site will be to a SPEL 300 series Tankstor cess stank has been specified to be connected to the welfare unit via 150mm dia. PVC pipe. The tank will be installed with an alarm system relaying to the welfare unit to warn when it is 75% and 90% full. It is anticipated that a registered waste carrier will be required to empty the tank approximately every two months. **Fire water tank and fire water pumps** The current design information includes a water tank, external to the main building, and sized to accommodate at least 410m^3 of firefighting water. As there is no available public hydrant system with sufficient flow and pressure, a private hydrant network will be installed and fed from a dedicated fire water range and pump package to be agreed with the Fire Brigade. Two firewater pumps will be installed in a containerised enclosure, rated for full sprinkler and manual firefighting demand. The pumps will be configured to operate using electricity, with standby operation using diesel. The pump enclosure will be protected by a sprinkler system. There will be a requirement to store a relatively low inventory of diesel for standby fuel for the fire pumps. The inventory is to be confirmed thought this will be stored in self bunded units stored on sealed concrete hardstanding. The main building will be protected by a sprinkler system or an alternative suitable system such as water cannon. **Fire water containment** The installation site will have a fire water containment system allowing for 410m^3 of firewater. Within the installation site, the primary containment will be 150mm deep ramps or steps at all opening thresholds at the main building, with secondary containment provided by the flood barriers that are required to prevent the ingress of flood waters and tertiary containment of spent fire water on the impermeable reinforced concrete apron hardstanding around the main building which contains water up to a level of 125mm. During any incident such as a fire or large-scale fuel spill, it will be possible to shut off the surface water system at catchpits directly upstream of outfalls into the swale (south of the installation site), therefore, containing any contamination for disposal to a registered wastewater receiving facility.

Item	Description
	After a fire event, two options are available for the removal and processing of spent fire water: • On-site processing – BRM have confirmed their wastewater treatment facility (within the BRM operational site south of the installation site) could be used to store, test, treat and dispose of the contaminated firewater. The transfer of the firewater from the installation site would be via BRM's vehicles, or by a registered third-party contractor. • Off-site processing – There are several companies in the Kent/East London area who specialise in the removal, treatment, and disposal of contaminated firewater, many of whom can respond to a call out on the same day, sometimes within two hours. **Domestic effluent** There will be a small welfare facility on the installation site, however the main welfare and canteen facility for staff working at the installation will be on the main BRM site to the south. Drainage from toilets, wash basins and basic kitchen facilities on the installation site will be to a SPEL 300 series Tankstor cess tank which will connect to the welfare facilities by 150mm diameter PVC pipe. This will require emptying by a registered waste carrier approximately every two months. **Environmental management systems, operating procedures and maintenance of pollution prevention measures** Details of the management systems to be implemented at the installation are outlined in the Technical Application Report, a summary relevant to pollution prevention measures is provided below. BRM will implement a Competence Management Scheme developed by the Environmental Services Association (trade body representing the UK's resource and waste management industry) and Energy & Utility Skills. As the activities at the installation site will introduce new environmental aspects and potential impacts associated with BRM's operations, a gap assessment has been undertaken of current arrangements to identify where additional measures are needed, and further information relating to proposed management arrangements will be provided in due course, and further information is included in the Technical Application Report. Planned maintenance procedures will be established to ensure all key plant components that have the potential to affect the environmental performance of the installation, or compliance with the environmental permit, remain in good working order. These maintenance procedures will apply to all individual items of main operating plant and equipment, environmentally critical equipment such as the dust abatement measures, and minor items and components such as lubricants and greases, filters, seals, electric motors etc. The concrete floor of the main building will be subject to regular cleaning using dry techniques and visual inspection. BRM will operate a system of reporting to ensure that any observed cracks or other discontinuities in the flooring are immediately reported to the site management team so that repairs or other measures to prevent release of contaminants to the ground can be actioned.
Non-permitted activities undertaken	No non-permitted activities will take place within the installation site.
Document references for: Plan showing activity layout; and	The indicative installation layout and drainage layout are shown on figures in **Appendix A**. Figures showing the indicative installation layout and drainage layout for the installation site (including connections into the offsite system and drainage catchments within the installation site) are shown in **Appendix A**.

Item	Description
environmental risk assessment	This section is informed by the Technical Application Report. The environmental risk assessment for the installation activities is presented in the Technical Application Report in Table 8.3. A classification of 'Moderate' overall risk and above is considered not acceptable and requires possible further remedial measures / control mechanisms to mitigate the overall risk to an acceptable level, all risks have been assessed to be below this level.

Appendix A
Figures


WHARF AND FLOOD DEFENCE ACCESS ROAD
MCC FACILITY
EMMISSION POINT A1
FILTER HOUSE
FIRE WATER TANK
WHARF AND ENVIRONMENT AGENCY ACCESS AND EGRESS
FIRE WATER PUMPING STATION
MAIN BUILDING VEHICLE EXIT
INTERCEPTOR
WELFARE FACILITY CESS TANK
WELFARE FACILITY
INTERCEPTOR
RELEASE POINT TO BRM SITE DRAINAGE
INSTALLATION SECURITY GATES
RELEASE POINT TO BRM SITE DRAINAGE SYSTEM
INSTALLATION SECURITY GATES
EXISTING SECURITY GATES
EXISTING BRM GATEHOUSE
EXISTING SECURITY GATES AND INSTALLATION ENTRANCE AND EGRESS
EXISTING BRM WEIGHBRIDGE
Installation Boundary
Surface Water Drainage System
Surface water channel drain
Pedestrian footway
Emission points for releases to the environment
Manholes


WHARF AND FLOOD DEFENCE ACCESS ROAD
EMMISSION POINT A1
WHARF AND ENVIRONMENT AGENCY ACCESS AND EGRESS
Current BRM Lead Refining Facility Installation Boundary
E-scrap facility Installation Boundary
Emission points for releases to the environment
RIVER THAMES
Drain
RELEASE POINT TO BRM SITE DRAINAGE
RELEASE POINT TO BRM SITE DRAINAGE SYSTEM
EXISTING SECURITY GATES
EXISTING SECURITY GATES AND INSTALLATION ENTRANCE AND EGRESS
EXISTING BRM GATEHOUSE
EXISTING BRM WEIGHBRIDGE

0.12ha

0.190ha

0.15ha

0.226ha

0.14ha

SURFACE WATER BYPASS INTERCEPTOR

SURFACE WATER BYPASS INTERCEPTOR

0.240ha

FOUL WATER CESS TANK

0.008ha

RELEASE POINT OF PROPOSED SURFACE WATER SYSTEM TO BRM SITE DRAINAGE SYSTEM

RELEASE POINT OF PROPOSED SURFACE WATER SYSTEM TO BRM SITE DRAINAGE SYSTEM

Current BRM Lead Refining Facility Installation Boundary

E-scrap Facility Installation Boundary

150mm connection to surface water system

Surface water drainage system

Surface water manhole/catchpit (as noted)

Foul water connection to cess tank

Surface water catchment area (size as noted)

Appendix C
Risk assessment Approach

Preliminary Risk Assessment Methodology

Risk assessment is the process of collating known information on a hazard or set of hazards in order to estimate actual or potential risks to receptors. The receptor may be human health, a controlled water, a sensitive local ecosystem or even future construction materials. Receptors can be linked with the hazard under consideration via one or several exposure pathways (e.g. the pathway of direct contact). Risks are generally managed by isolating or removing the hazard, isolating the receptor, or by intercepting the exposure pathway. Without the three essential components of a source (hazard), pathway and receptor, there can be no risk. Thus, the mere presence of a hazard at a site does not mean that there will necessarily be attendant risks. The following risk assessment thus focuses on those parts of the site where hazards or potential hazards have been identified and is not general to the whole site.

Hazards

Potential sources of contamination are identified for the site, based on a review of the current and previous site uses. Not only the nature but also the likely extent of any contamination is considered, e.g. whether such contamination is likely to be localised or widespread.

Receptors

The varying effects of a hazard on individual receptors depends largely on the sensitivity of the target. Receptors include any people, animal or plant population, or natural or economic resources within the range of the source which are connected to the source by the transport pathway. Receptors can, in addition, extend to remediation processes and future construction materials that may be adversely affected by on-site contamination. In general, however, receptors can be divided into a number of groups depending on the final use of the site.

Pathways

The mere presence of contamination does not infer a risk. The exposure pathway determines the dose delivered to the receptor and the effective dose determines the extent of the adverse effect on the receptor. The pathway which transports the contaminants to the receptor or target generally involves conveyance via soil, water or air.

Exposure Assessment

By considering the source, pathway and receptor, an assessment is made for each contaminant on a receptor by receptor basis with reference to the significance and degree of the risk. In assessing this information, a measure is made of whether the source contamination can reach a receptor, determining whether it is of a major or minor significance. The exposure risks are assessed against the present site conditions.

A preliminary risk assessment has been undertaken for these potential source-pathway-receptor linkages to identify potentially unacceptable risks on a qualitative basis. This approach is based on DEFRA and CIRIA guidance on risk assessment and Model Procedures. Risk is based on a consideration of both:

- The likelihood of an event (probability); [takes into account both the presence of the hazard and receptor and the integrity of the pathway].
- The severity of the potential consequence [takes into account both the potential severity of the hazard and the sensitivity of the receptor].

The definitions of the classification of consequence and likelihood are given below

Likelihood of Contaminant Linkage	
High likelihood	An event is very likely to occur in the short term, and is almost inevitable over the long term OR there is evidence at the receptor of harm or pollution.
Likely	It is probable than an event will occur. It is not inevitable, but possible in the short term and likely over the long term.
Low likelihood	Circumstances are possible under which an event could occur. It is by no means certain that even over a longer period such an event would take place, and less likely in the short term.
Unlikely	It is improbable that an event would occur even in the very long term.

Potential Consequence of Contaminant Linkage	
Severe	Acute risks to human health. Short-term risk of pollution of sensitive water resource (e.g. major spillage into controlled waters). Impact on controlled waters e.g. large scale pollution or very high levels of contamination. Catastrophic damage to buildings or property (e.g. explosion causing building collapse). Ecological system effects – irreversible adverse changes to a protected location. Immediate risks.
Medium	Chronic risks to human health. Pollution of sensitive water resources (e.g. leaching of contaminants into controlled waters). Ecological system effects – substantial adverse changes to a protected location. Significant damage to buildings, structures and services (e.g. damage rendering a building unsafe to occupy, such as foundation damage).
Mild	Non-permanent health effects to human health. Pollution of non-sensitive water resources (e.g. pollution of non-classified groundwater). Damage to buildings, structures and services (e.g. damage rendering a building unsafe to occupy, such as foundation damage). Substantial damage to non-sensitive environments (unprotected ecosystems e.g. crops).
Minor/ Negligible	Non-permanent health effects to human health (easily prevented by appropriate use of PPE). Minor pollution to non-sensitive water resources. Minor damage to non-sensitive environments (unprotected ecosystems e.g. crops). Easily repairable effects of damage to buildings, structures, services or the environment (e.g. discoloration of concrete, loss of plants in a landscaping scheme).

In order to then determine the risk to the identified receptor, both the likelihood and severity of the potential hazard is input into a risk assessment matrix as follows:

Potential Significance of Contaminant Linkage Matrix:

Matrix		Likelihood			
		High Likelihood	**Likely**	**Low Likelihood**	**Unlikely**
Potential consequence	**Severe**	Very High	High	Moderate	Moderate/Low
	Medium	High	Moderate	Moderate/Low	Low
	Mild	Moderate	Moderate/Low	Low	Negligible
	Minor / Negligible	Moderate/Low	Low	Negligible	Negligible

The overall definition of risk is given below:

Potential Significance	
Very High Risk	Severe harm to a receptor may already be occurring OR a high likelihood that severe harm will arise to a receptor, unless immediate remedial works/mitigation measures are undertaken.
High Risk	Harm is likely to arise to a receptor, and is likely to be severe, unless appropriate remedial actions/mitigation measures are undertaken. Remedial works may be required in the short term, but likely to be required over the long term.
Moderate Risk	Possible that harm could arise to a receptor, but low likelihood that such harm would be severe. Harm is likely to be medium. Some remedial works may be required in the long term.
Low Risk	Possible that harm could arise to a receptor. Such harm would at worse normally be mild.
Negligible	Low likelihood that harm could arise to a receptor. Such harm unlikely to be any worse than mild.

Appendix D Geotechnical Risk Register

The risk register is a means of documenting perceived risks and their importance and recording actions taken to manage them. The key elements of a geotechnical risk register are as follows:

1.	Identify the geotechnical risks.
2.	Identify the methods of construction that may be incorporated into the project.
3.	Scale the risks according to probability and impact.
4.	Based on the severity of each risk, decide on the type of action.
5.	Identify how each risk should be managed.
6.	Record the actions taken to manage the risk.
7.	Reassess the severity of each risk after action has been taken.
8.	Review the risk register at regular intervals and communicate.

The risk register is a live document and should be reviewed on a regular basis and at the end of each stage of the project.

The probability (P) that a given event will occur is given by the following:

Scale		Probability (Likelihood)	Chance per section of work
			(Amend to suit local conditions and to be agreed with the Client)
1		Negligible	< 1 in 100
2		Unlikely	1 in 100 to 1 in 10
3		Possible	1 in 10 to 1 in 5
4		Probable	1 in 5 to 1 in 2
5		Almost certain	> 1 in 2

The impact (I) of a given event is given by the following:

Scale		Impact (Effect)	Increase in cost or time (% increase)
			(Amend to suit local conditions and to be agreed with the Client)
1		Negligible	< 1%
2		Very low	1% to 4%
3		Low	4% to 8%
4		High	8% to 15%
5		Very high	> 15%

The risk after the application of risk control measures should be reviewed in the light of the following table:

Degree of Risk		Risk Level	Action Required	
1 - 4		Trivial	None	
5 - 9		Tolerable	Consider more cost-effective solutions or improvements	
10 - 15		Substantial	Work must not start until risk has been reduced	
16 - 25		Intolerable	Work must not start until risk has been reduced. If risk cannot be reduced, project should not proceed.	

The risks and their potential impacts may vary between the various stages of the project, such as the risk to and from buried services, where the impact can be much higher during a ground investigation than during a desk study.

Stage	Risk No	Hazard	Prior to RCM			Risk Control Measure (RCM)	After RCM		
			Probability (P)	Impact (I)	Risk (R = P x I)		Probability (P)	Impact (I)	Risk (R = P x I)
Completion of Desk Study	DS1	Uncertainty of ground and groundwater conditions as no site-specific ground investigation data	5	5	25	Undertake intrusive ground investigation to allow delineation and characterisation of strata. Develop geology model for the site.	4	1	4
	DS2	Made ground of unknown composition, depth, and extent.	5	4	20	Undertake intrusive ground investigation to allow delineation of the made ground and determine its composition and thickness as well as contamination.	4	1	4
	DS3	Groundwater at shallow depth and potential for localised flooding	4	3	12	Identify groundwater levels on site via installation of monitoring wells. Monitor behaviour in trial pits. Carry out monitoring to identify typical groundwater levels including periods of heavy precipitation.	4	1	4
	DS4	Damage to existing underground and overhead services	4	4	16	Use best practice to identify all utilities onsite prior to any intrusive investigation or construction. This may include reference to existing historic service plans and recent GPR survey, calling out all service providers, carrying out CAT & Genny/GPR scans, and hand excavated inspection pits at all intrusive locations.	1	4	4
	DS5	Potential for ground conditions aggressive to buried concrete / services	3	3	9	Undertake ground investigation and sampling to facilitate testing for aggressive conditions. Appropriate design and selection of construction materials to mitigate for the presence of aggressive chemicals.	3	1	3

Stage	Risk No	Hazard	Prior to RCM			Risk Control Measure (RCM)	After RCM		
			Probability (P)	Impact (I)	Risk (R = P x I)		Probability (P)	Impact (I)	Risk (R = P x I)
	DS6	Potential for relic foundations and underground structures remaining from previous developments	2	4	8	Carry out pre-and post-demolition surveys to ensure that all relic foundations are recorded prior to development.	2	1	4
	DS7	Potential for soft and compressible deposits	3	4	12	Undertake intrusive ground investigation to allow delineation and characterisation of strata. Develop geology model for the site.	3	1	3
	DS8	Potential for contamination in ground and groundwater	4	3	12	Geo-environmental sampling to be undertaken during the ground investigation. Allow for testing of selected samples. Geo-environmental assessment based on the results to mitigate against harm to receptors, and to allow the appropriate disposal of waste.	4	1	4
	DS9	Obstructions from previous building foundations or flood defence wall anchors encountered during intrusive works.	4	4	16	Review historical mapping and building map layouts to identify areas at risk of having obstructions or striking the flood defences anchors.	2	4	8

Appendix C
Britannia Refined Metals Ltd, Area 4 Ground Investigation, Factual Geo-Environmental Ground Investigation Report

Britannia Refined Metals Ltd

Area 4 Ground Investigation

Factual Geo-Environmental Ground Investigation Report

Wood Environment & Infrastructure Solutions UK Limited – September 2022

Draft - see disclaimer

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Contents

1. Introduction

Britannia Refined Metals (BRM) requires an assessment (land quality and geotechnical aspects) of a portion of their Northfleet site known as 'Area 4' ('the site') to support the redevelopment for use as an e-scrap sampling facility and/or continued use of the site.

Wood Environment and Infrastructure Solutions UK Limited (Wood) was commissioned by BRM to undertake this Phase 2[1] One Geo-Environmental Assessment of the site.

1.1 Background

BRM previously commissioned a land quality Phase 1 Desk Study for Area 4 of their Northfleet site ('the site'), in support potential redevelopment. The recommendations therein were to carry out further assessment in the form of ground investigation (Phase 2 land quality assessment).

The site has been subject to previous land quality assessment, as detailed in the following reports:

- E-Scrap Sampling Plant: Area 4. Phase 1 – Geo-environmental Desk Study, February 2022 (Reference 807346-WOOD-XX-XX-RP-O-00002_S2_P02);
- Draft Baseline Phase 1 Environmental Contamination Assessment, Carillion Wharf & Depot Site, ERM Ltd, February 2009.

The 2009 findings are discussed in the 2022 report where relevant. The 2022 report concluded that in order to establish baseline land quality conditions and obtain an understanding of the geotechnical ground conditions of the area prior to leasing the site, an intrusive investigation was required.

This report provides the factual information from the intrusive investigation. Separate interpretative reports for land quality and geotechnical aspects of the site and their impact on the proposed end use of the site were also produced and are referenced as follows respectively.

- 808678-WOD-ZZ-XX-RP-OG-00002_S0_P01.
- 808678-WOD-ZZ-XX-RP-OG-00003_S0_P01.

1.2 Purpose

This report has been produced for the purpose of describing the works undertaken and collating and presenting factual land quality and geotechnical data from the ground investigation carried out by Wood and CCGI.

The specific purpose of the intrusive investigation was:

[1] Phase Two's are ground investigation reports (either factual or interpretative).

- To collect data to establish the land quality of the soils and groundwater at the site to support the client in the redevelopment or continued use of the land;
- To refine the desk study, soil, groundwater and ground gas risk assessments and outline any further assessment required or possible limitations this may have on the proposed use of the site; and
- To collect ground information that would lead to a detailed understanding the sites ground profile to determine the stratums underlying the site and their thickness;
- To perform in-situ testing to determine soil/rock parameters;
- To collect geotechnical samples to schedule for laboratory testing to further collect soil/rock parameters to be used for ground improvement and/or foundation solution design.

1.3 Scope of Works

To achieve the above objective, the following scope of works was adopted:

- Completion of six cable percussive boreholes with rotary 'follow on', six window sample holes, four trial pits and two hand excavated pits to support assessment of soils up to 40.5m below ground level (bgl) and allow groundwater and gas monitoring wells to be installed;
- Collection of geotechnical and environmental samples;
- In-situ geotechnical tests.
- Analysis of selected soil samples;
- Completion of two groundwater monitoring rounds with groundwater sampling and chemical testing;
- Completion of four ground gas monitoring rounds; and
- Interpretation of analytical laboratory data and field data (quantitative risk assessment) including development of a hydrogeological model for the site.

1.4 Limitations

The conclusions reached and advice given in this report are based in part upon information and/or documents that have been prepared by third parties. In view of this, we accept no responsibility or liability of any kind in relation to such third-party information and no representation, warranty or undertaking of any kind, express or implied, is made with respect to the completeness, accuracy or adequacy of such third party information. In preparing this report we have assumed that all information provided by the Client is complete, accurate and not misleading.

1.5 Structure of the Report

The report is set out as follows:

- Chapter 2 – Summary of previous factual information.
- Chapter 3 – Objectives and scope of intrusive investigation.
- Chapter 4 – Summary of ground conditions.

2. Summary of Previous Information

The Phase 1 Geo-environmental Desk Study (Ref. 1) has been used in the collation of the information presented in this chapter.

2.1 Site Details

The site is located off Botany Road, Northfleet; it is situated on the Swanscombe Peninsular approximately 1.2km north of Swanscombe. The site lies in a heavily industrialised area, although land to the west is marshland that has been designated a Site of Special Scientific Interest (SSSI). The site address is: BRM Area 4, Botany Road, Northfleet, DA11 9BG. The site is centred on approximate National Grid Reference (NGR) 561209 175806.

2.2 Site Description

The site is approximately 1.15ha in size and broadly rectangular in shape.

The site comprises one main permanent building (an office space) and an out-building garage and a small telemetry building. There is a ~2m high flood defence wall and wharf access gate in the east and a ditch in the south.

The site is currently undergoing clearance but at the time of the ground investigation this was on-going with some equipment, general debris, tank and materials distributed across the site.

Except for the northern access road and apron and paths on the site, the groundcover is a mixture of gravel, compacted hardcore, scrub and rough vegetation in the south of the site and landscaped (grassed), gravel and compacted hardcore in the north,. Approximately 20% of the site comprises hardstanding and buildings

The site location and layout is shown in Figure 1.

2.3 Site History

The site was marshland at the edge of river Thames until the 1970s whence it was reclaimed by land raising and filling. The site appears to have been associated with the cement works to the north and later separated in the early 1990s. Carilion leased the site from 1999 to 2009 for use as a marine engineering wharf.

Until recently (February 2022) the northern portion of the site was leased by WB services for use as a transport yard and the southern portion was leased by CMP Thames in the south for marine piling operations and plant storage.

2.4 Risks from UXO

Assessment of unexploded ordnance[2] (UXO) risk at the site has been carried out separately by a third party and is not part of this current LQA assessment. The assessment concluded that there are

[2] UXO Desk Study and Risks Assessment, Zetica (Report Ref: P11363-21-R1) January 2021

moderate risks at the site in some scenarios. The full assessment should be reviewed prior to any work requiring breaking ground.

2.5 Environmental Setting

Topographically, the site is relatively flat over the main portion of the site and is at an approximate elevation of 4.5 to 6.2 m above Ordnance Datum (AOD). The southern portion of the site is at a slightly higher elevation due to fill material emplacement.

Geology

The site is underlain by made ground which was imported to build up the site level during the 1970s as well as more recently relating to providing a suitable substrate for site activities. Made ground was expected to be up to 3m thick.

Underlying the made ground, alluvium, Boyn Hill Gravels (BHG) and chalk were anticipated. Data from ground investigation to the south of the site indicated the alluvium was anticipated to approximately 11.0 to 12m thick, the BHG was anticipated to be 6-9m thick and the base of the chalk was not proven but is significantly deeper than investigatory locations proposed for the GI i.e. is over 100m thick. The top of the chalk was identified at 21.5m bgl to the south of the Site.

Hydrogeology

The underlying alluvium is classified as an undifferentiated Secondary Aquifer in common with the underlying Boyn Hill Gravels.

The underlying chalk is classified as a Principal Aquifer.

The Secondary superficial aquifer is of high sensitivity and has a high infiltration (leaching) value potential deposits.

The underlying chalk bedrock at the site is of medium vulnerability and the principal flow mechanism is via well connected fractures.

The site is underlain by Secondary and Principal Aquifers, and there is an abstraction located within 200m of the site although this is not a drinking water abstraction. The site lies within a Total Catchment SPZ and the groundwater vulnerability is high with respect to the Secondary Aquifer and medium with respect to the Principal Aquifer. It is possible that the Principal Aquifer is in hydraulic continuity with the Secondary Aquifer as well as with the tidal and saline marshes and / or River Thames which would degrade the quality of the groundwater. With the exception of the recently designated SSSI, the surrounding land use is predominantly industrial and has been as such for a number of years which could have also led to a degradation in groundwater quality.

Hydrology

The closest surface water feature to the site is an inland river situated on the BRM site 8m to the south. There are also a range of inland rivers situated approximately 40m west of the site within the

Swanscombe Peninsular SSSI. It is not anticipated that there is a significant flow within these water features and it is likely that they the either drain to land or to the River Thames.

The Environment Agency Catchment Data Explorer indicates that the site lies within the Medway catchment which is a coastal catchment. The only related surface body listed within 250m of the site is the River Thames (Middle). Data published for 2019 indicates that the ecological quality was classified as 'Moderate' and the chemical quality failed to meet objectives, with an overall quality assessment of 'Moderate'.

There are no surface water abstractions within 1km of the site. Surface water sensitivity is Moderate.

Ecology

Swanscombe Peninsular was designated and SSSI in November 2021 and as a result is not listed in the Groundsure Report as records were not updated in time. This SSSI is in recognition of the land's national importance for plants, geology, birds and invertebrates – including one of the rarest spiders in the country. The SSSI is adjacent the west boundary of the site and at its closest is 40m away.

Two other SSSIs exist within 2km of the site. These are Bakers' Hole which is 1172m to the south of the site and Swanscombe Kull Site which is 1925m to the south-west. These are designated on the basis of geological and physiographical features as opposed to ecological, however, Baker's Hole SSSI has been incorporated into the Swanscombe Peninsular SSSI.

The ecological sensitivity of the site is assessed as high given that there are statutory designated ecologically sensitive sites adjacent to the site.

3. Scope of Works

3.1 Objectives of the Ground Investigation

The intrusive investigation focussed on the moderate risks identified in the Phase 1 Desk Study (807346-WOOD-XX-XX-RP-O-00002_S2_P02) associated with the identified sources of contamination as well as proving a baseline for potential contaminants as no previous ground investigation had been conducted to date. The Ground investigation was also carried out to provide a geotechnical assessment of the site.

Furthermore, a period of gas and groundwater monitoring has been included to allow the quality of the groundwater to be measured as well as any presence of soil gas that would impact the design of any structures

3.2 Scope of Works

The scope of works comprised:

- Service and unexploded ordnance clearance;
- Intrusive investigation including:
  - 6 cable percussion/rotary boreholes (up to 40.5m bgl) (BH101 – BH106);
  - 6 window samples (up to 6.0 m bgl) (WS101 to WS106);
  - 4 trial pits (up to 4.0 m bgl) (TP101 to TP104); and
  - Five hand dug pits (up to 1.2 m bgl) (HP01 to HP05).
- Installation of 5 dual wells in the boreholes for groundwater monitoring purposes and one gas monitoring (BH103s);
- Installation of 5 dual wells in the window sample boreholes for gas monitoring;
- Survey of all exploratory holes to National Grid Coordinates and Ordnance Datum elevation;
- Chemical analysis of soil samples;
- Well development by purging;
- Two rounds of groundwater level monitoring using an oil interface meter;
- Monitoring groundwater fluctuations in the Boyn Hill Gravel to assess for tidal influence;
- Follow-on sampling of wells and chemical analysis of water samples.

Site investigation locations are presented as Figure 1. Borehole logs and geotechnical analysis data is presented in Appendix A.

3.3 Soil Sampling

Logging was carried out at all exploratory hole locations in general accordance with BS5930:2015. The logs are included in Appendix A.

The soil samples from various depths across the site were analysed in line with the initial CSM and risk assessment for a range of the following:

- Asbestos including quantification where asbestos was detected in the screening;
- metals and metalloids (antimony, arsenic, bismuth, cadmium, chromium (III), chromium (hexavalent), copper, lead, mercury, nickel, tin, selenium, and zinc),
- polyaromatic hydrocarbons (PAHs),
- pH, cyanide, total organic carbon, ammonium and sulphate;
- volatile organic compounds (VOCs and SVOCs);
- Polychlorinated biphenyls (PCBs);
- Tributyl tin oxide;
- Total petroleum hydrocarbons (TPHCWG including BTEX and MTBE);

11 samples were also subject to (waste acceptance criteria) WAC analysis.

The laboratory analysis results are included in Appendix D.

3.4 Groundwater Monitoring

Groundwater Level Monitoring

Groundwater level monitoring was carried out as follows:

- 17th – 18th August 2022
- 23rd – 25th August 2022

Groundwater conditions were monitored using a portable oil-water interface probe capable of detecting free-phase hydrocarbon and groundwater. The following parameters were recorded:

- Depth to product (where present) m bgl;
- Depth to groundwater m bgl; and
- Depth to base of installation m bgl.

In addition to level monitoring, 'divers' were fitted to the BHG installations to assess for tidal influence of the Thames River which is tidal at the site location.

Groundwater level monitoring data is presented in Appendix B.

Groundwater Quality Monitoring and Sampling

Groundwater was sampled using a downhole 'wasp' or a low flow peristaltic pump. Samples were taken from all boreholes.

Boreholes were purged and water quality was monitored using portable equipment to confirm that conditions were stable and representative prior to sampling. Monitoring was carried out for the following parameters:

- pH;
- Electrical conductivity;
- Redox potential;
- Dissolved oxygen (DO); and
- Temperature.

All groundwater samples were scheduled for the following suite of analysis:

- Total Petroleum Hydrocarbons – Criteria Working Group (TPH-CWG);
- Speciated polycyclic aromatic hydrocarbons (PAHs);
- Benzene, toluene, ethylbenzene and xylene (BTEX);
- Volatile organic compounds (VOCs);
- pH;
- Metals and Metalloids: antimony, arsenic, cadmium, chromium (total and VI), copper, lead, mercury, nickel, selenium, zinc;
- Cyanide; and
- Sulphate, sulphide, dissolved organic carbon, nitrate, nitrite, alkalinity, salinity, calcium, ammoniacal nitrogen.

Surface Water Sampling

Two water samples were taken from the River Thames to obtain chemical data for the Thames in the context of a receiving body of water.

The field monitoring results are present in Appendix B and laboratory analysis results are included in Appendix D.

3.5 Geotechnical Testing Summary

Geotechnical samples were collected to derive parameters of the ground profile. The laboratory tests that were scheduled include:

- Water Content;
- Atterberg Limits (4-point);
- Particle Size Distribution (Wet Sieve & Pipette);
- Shear Box Tests;
- Quick Undrained Triaxials;

- One Dimensional Consolidation;
- Uniaxial Compressional;
- Point Load Strength;
- BRE SD1 Suite (D);
- And Organic Matter.

Hand shear vanes and Standard Penetration Tests were also conducted during the site investigation to collect shear strength values.

3.6 Gas Monitoring

Four[3] rounds of gas monitoring were undertaken from the shallow made ground and alluvial installations in window samples and from the made ground installation at BH103.

Monitoring of gas was carried out using a GFM-436 Landfill Gas Monitor. A PID was also used to assess vapours. The results are present in Appendix C.

3.7 Quality Assurance and Control

Wood operates a quality system registered under BS EN ISO 9001 (Certificate Registration No. FS34171). Wood only employs contractors and other key suppliers from its 'approved supplier list', which is managed under the Quality System. Subcontractors are managed following guidance under the Quality System Procedure 'Management of Site Works Contractors'.

The site works were supervised on a full time basis by Wood. During the fieldwork, the following procedures were followed to ensure the accuracy of the sampling and prevent cross contamination:

- A stainless steel trowel was used for soil sampling which was cleaned in between soil samples and dedicated tubing in each well was used for water sampling;
- Samples were maintained at a low temperature and conveyed to the testing laboratory at the earliest opportunity; and
- Sample containers were only handled using clean nitrile gloves.

All samples were sent by courier accompanied by full Chain of Custody documentation and unique identifiable labels. Samples were analysed by a UKAS/MCERTS accredited laboratory that regularly participates in inter-laboratory schemes including CONTEST and AQUAcheck (i2 Laboratories).

[3] CIRIA C665 guidance requires at least two sets of readings should be at low and falling atmospheric pressure (but not restricted to periods below <1000 mb) to achieve worst case known as worst case conditions. The monitoring frequency and period respectively should be six rounds over three months. The above conditions have not yet prevailed at the site during and as such two further rounds are planned when conditions allow.

3.8 Limitations

Obstructions

The Made Ground encountered across the site was dense with difficulty progressing hand pits to 1.20m bgl due to the density and obstructions such as concrete and brick cobbles. WS104, WS105 and WS106 were loosened with a mechanical breaker attachment to allow the window sampling to progress. Large cobbles and boulders of reinforced concrete were encountered in the near surface Made Ground present in the area of WS106.

Concrete was encountered between depths of 0.70m and 1.10m bgl within the original planned area of BH101C (to the west of a concrete fuel storage area), the borehole was moved to the west, adjacent to the concrete slab to the north east of the existing building. Defining the full extent of the slab was not an investigation objective.

Inaccessible Locations

All locations were drilled as planned with the exception of BH101C which moved south westward of the original planned location due to the presence of concrete underlying the surface materials.

4. Ground Conditions

Below is a summary of the ground conditions encountered. Exploratory hole logs are within the CCGI Factual report in Appendix A.

4.1 Geology

Across the site the surface covering generally comprised granular fill material with grass over topsoil within WS101, WS102, HP104, HP105 and TP101. BH102 was located in an area of tarmac hardstanding with BH106 located in an area of concrete hardstanding. The underlying ground conditions generally comprised Made Ground, Alluvium, Boyn Hill Gravel and the Chalk Group.

The concrete hardstanding present at surface within BH106 was encountered to 0.80m bgl. Tarmac within BH102 was encountered from surface to 0.10m bgl.

Topsoil

Topsoil in the north and north west of the site within WS101, WS102 and TP102 generally comprised a friable light brown slightly gravelly sandy clay with frequent roots and rootlets. Gravel comprised brick and flint.

Made Ground

Made Ground was encountered across the site within all exploratory locations to depths of between 0.70m and 5.00m bgl. The made ground primarily comprised clayey sandy GRAVEL or clayey gravelly SAND with the gravel comprising brick, concrete, ceramic fragments and siliceous material.

Within WS101, WS102, TP101 and BH102 a generally light grey/white very sandy flint and siliceous material GRAVEL was encountered from depths of between 0.30m and 0.70m bgl to depths of between 0.65m and 1.30m bgl.

In the south of the site, within WS104 and WS105, a brown silty SAND with ash and charcoal was present from 1.50m and 1.20m bgl, respectively, to depths of 2.00m and 2.30m bgl.

A generally firm brown slightly sandy gravelly CLAY with gravels of brick, clinker and siliceous material was encountered across the southern area of the site from depths of between 0.50m and 1.70m bgl to depths of between 1.20m and 2.10m bgl.

BH101C encountered a grey mottled brown slightly gravelly sandy CLAY with gravels of concrete, siliceous material, chalk and ash from 1.35m to 2.00m bgl.

Within WS103, a yellowish grey mottled black sandy concrete GRAVEL was encountered from 1.40m to 1.80m bgl.

Made ground was encountered to a depth of 5.00m bgl within BH106 underlying the concrete. These soils soils were, of a grey sandy silty flint and concrete GRAVEL to 1.20m bgl, underlain by a brown sandy clayey GRAVEL of brick, chalk, concrete, siliceous material and ash. Underlying the granular made ground is a very soft black slightly gravelly silty CLAY (possibly a reworked natural

material) with gravels of concrete, brick flint and chalk to 5.00m bgl. A single long fibrous wire was present at 1.50m bgl.

Alluvium

Underlying the made ground across the site, esentative of alluvium deposits were encountered to depths of between 15.00m (BH106) and 21.60m bgl (BH105). Soils generally comprised very soft to soft dark grey silty clays with organic matter and dark grey clayey sands. Dark grey clayey silts with organic material were encountered within BH105 between 9.50m and 12.00m bgl.

Peat was present within BH102, BH103, BH104 and BH106 from depths of between 8m-10m bgl to depths of between 9.50m and 12.90m bgl and can be described as dark brown plastic fibrous and pseudo fibrous peat. Pockets and lenses of peat were observed within BH101C, BH103, BH104, BH105 and BH106 from depths of between 5.00m and 13.80m bgl to depths of between 14m and 21.60m bgl.

Boyn Hill Gravel Member

Underlying the alluvium, the Boyn Hill Gravel Member was encountered at depths between 15.00m (BH106) and 21.60m bgl (BH105) with thicknesses ranging between 1.9m (BH105) -6.70m (BH104). The soil generally comprised of medium to very dense very sandy GRAVEL of flint and siliceous material.

Chalk Group

Chalk was encountered underlying the Boyn Hill Gravel Member from depths of between 20.50m (BH106) and 23.80m bgl (BH101) to a maximum investigation depth of 40.50m bgl (BH102). The base of the chalk was not proven. Initially the soils generally comprised structureless chalk composed of a cream slightly sandy, slightly silty GRAVEL to depths of between 29m and 33m bgl.

Structured chalk was encountered underlying the structureless chalk to a maximum depth of 40.50m bgl and generally comprised weak, low to medium, becoming high within BH101C, density cream chalk with frequent black specks, orangish brown staining and occasional flint cobbles present. Discontinuities are randomly orientated, very closely spaced infilled with cream silt.

Groundwater

Groundwater was encountered across the site as summarised in the table below. Data loggers were installed within the boreholes and show groundwater within the Boyn Hill Gravel Member to be tidally influenced.

Borehole	Strata	Groundwater elevation (m bgl)	
		High	Low
BH101C (D)	Boyn Hill Gravel Member	0.98	5.92
BH102 (D)	Boyn Hill Gravel Member	2.41	4.89
BH103 (D)	Boyn Hill Gravel Member	3.86	5.82
BH104 (D)	Boyn Hill Gravel Member	3.49	4.50
BH105 (D)	Boyn Hill Gravel Member	3.63	6.13
BH101C (S)	Alluvium	3.87	5.25

BH102 (S)	Alluvium	4.66	4.87
BH103 (S)	Made Ground	1.4	Dry
BH104 (S)	Alluvium	2.26	2.26
BH105 (S)	Alluvium	2.37	2.57
WS101	Made Ground	Dry	Dry
WS102	Made Ground	0.94	1.04
WS103	Made Ground	Dry	Dry
WS104	Made Ground	Dry	Dry
WS105	Made Ground	Dry	Dry
WS106	Made Ground	Dry	Dry
WS101	Alluvium	1.06	1.20
WS102	Alluvium	0.95	1.04
WS104	Alluvium	2.16	2.35
WS105	Alluvium	2.50	2.73

4.2 Soil Screening and Visual and Olfactory evidence of contamination

There was limited visual or olfactory evidence of contamination in the exploratory locations, with the exception of BH101C between 1.00m and 2.00m bgl which had a strong odour of ammonia which dissipated quickly. Headspace readings taken with a photo-ionisation detector (PID) were all between detection (<0.1 ppm) and 2.60 ppm recorded in the Made Ground across the site.

Observations of potential contaminants were limited to rare to occasional ash, clinker, slag and metal fragments in some made ground horizons. There were no visual/olfactory observations of gross contamination.

4.3 Geotechnical limitations

'Blowing' sands and gravels were encountered within the Boyn Hill Gravel Member during the drilling of the boreholes resulting in sands and gravels coming up into the casing and needing to be cleared out to progress the boreholes further, resulting in slow progress at times.

While drilling through the Boyn Hill Gravel Member, the casing was dropping past the depth of the borehole and sinking under its own weight, restricting the SPT testing. Blowing sands were also noted to be a limiting factor when trying to carry out SPT tests this caused the loss of some geotechnical information.

During excavation of the trial pits, TP101 and TP102 generally remained stable with TP103 and TP104 suffering collapse of the side walls during excavation. TP103 collapsed back to 3.20m bgl from 4.00m bgl with TP104 collapsing back to 3.40m bgl from 4.00m bgl.

Figures

561150 561200 561250 561300

175850 175800 175750 175700

N

HP101 HP102 BH101C WS102 WS102-DP BH102 WS101-DP WS101 BH103 TP101 HP103 HP104 TP103 WS103 HP105 TP102 BH105 BH104 TP104 WS105 WS106 WS104 BH106

River Thames

Pond

GI Location Co-ordinates
BH101C - 561226.98, 175847.62
BH102 - 561158.66, 175833.45
BH103 - 561242.19, 175806.43
BH104 - 561197.09, 175743.24
BH105 - 561252.77, 175747.43
BH106 - 561258.35, 175707.79
WS101 - 561181.10, 175827.88
WS102 - 561196.55, 175843.62
WS103 - 561231.26, 175763.75
WS104 - 561228.45, 175734.66
WS105 - 561247.84, 175737.18
WS106 - 561267.89, 175737.51
WS101-DP - 561181.04, 175835.33
WS102-DP - 561197.80, 175842.18
TP101 - 561197.87, 175799.78
TP102 - 561205.07, 175755.25
TP103 - 561252.03, 175770.44
TP104 - 561226.86, 175740.85
HP101 - 561240.98, 175856.26
HP102 - 561239.75, 175853.50

Key

- Proposed site boundary
- Proposed main building layout
- Cuverted crossing
- No man's land boundary
- External buildings
- Borehole location
- Hand dug pit location
- Trial pit location
- Window sample location

0 10 20 30 40 m
Scale at A3: 1:700

Britannia Refined Metals Ltd (BRM)
BRM Area 4 Geo-environmental Ground Investigation Factual Report

Figure 1
Site location, layout and exploratory hole locations

September 2022

wood.

808678-WOOD-ZZ-XX-FG-OG-00001_S0_P01.1

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Appendix A
CCGI factual report (exploratory location logs and geotechnical analysis)

CC Ground Investigations Ltd

(INTERIM) DRAFT

FACTUAL REPORT

Site: BRM Area 4, Northfleet

Client: Britannia Refined Metals (BRM) Ltd

Report ref: C7644

Status	Revision	Date	Author	Checker	Approver
Draft - Interim	01	23/08/2022	A.King	R. Tucker	E. Withington

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1 INTRODUCTION

1.1 Instruction

This investigation was carried out by CC Ground Investigations Ltd (CCGI) on the instruction and on behalf of Britannia Refined Metals (BRM) Ltd (The Client) under the technical direction of Wood Group Ltd (the Engineer).

1.2 Objectives

The purpose of the ground investigation was to provide information to assist in the in the design of a re-development of a site for a new E-Scrap sampling facility adjacent to the existing Britannia Refined Metals site.

This report describes the work carried out by CCGI and presents a factual account of the findings.

1.3 Scope of Works

The scope of the ground investigation was defined in the Engineer's specification, reference, 807346-WOOD-XX-XX-SP-C-00002_S3_P01 0 dated April 2022.

All information, comments and opinions given in this report are based on the ground conditions encountered during the site work and on the results of laboratory and field tests performed during the investigation. There may however be conditions at or adjacent to the site which have not been taken into account, such as unpredictable soil strata and water conditions between or below exploratory holes. A careful watch should be maintained during any future groundworks and the comments of this report reviewed as necessary.

This report has been prepared for Wood Group & Britannia Refined Metals (BRM) Ltd. This report shall not be relied upon or transferred to other parties without the written consent of CCGI. Should any information contained within this report be used by any unauthorised third party it is done so at their own risk and shall not be the responsibility of CCGI.

2 SITE INFORMATION

2.1 Site Description

The area of investigation, BRM Area 4, is situated within a heavily industrialised section of Northfleet. The site is bound to the north by Cemex Cement, to the east by a flood defence wall which runs adjacent to the River Thames, to the south by Britannia Refined Metals main site, and to the west by Manor Road – an access route which leads to BRM Area 4.

The site can be divided into two sections; the first is a disused section of land with a derelict single story brick building and a metal roofed brick storage unit to the north and an open, vegetated section to the south; and the second is located to the north on the grounds of the main BRM site.

The site is centred on the approximate National Grid Reference NGR 561209 175806. The nearest postcode to the site is DA11 9BG. The general location of the site is presented in Appendix A.

2.2 Geology

Geological Records (British Geological Survey (BGS), England and Wales Sheet 271 - Dartford S&D 1: 50,000 scale) and the online BGS Geology of Britain Viewer, indicate the site to be underlain by superficial deposits of Alluvium. The underlying solid geology is recorded as undifferentiated Lewes Nodular Chalk Formation, Seaford Chalk Formation and Newhaven Chalk Formation.

3 GROUND INVESTIGATION

3.1 Introduction

Twenty-four exploratory holes were carried out between 12th July 2022 and 25th August 2022. All exploratory hole locations are shown on the site plan (Appendix A) and summarised in Table 1 below. The exploratory hole locations were set out by CCGI as directed by the Engineer on site.

Table 1 Exploratory Hole Summary

Location	Hole Type	Depth (m bgl)	Start date	End date	Easting	Northing	Level (mAOD)
BH101C	CP DS + RC	39.30	01/08/2022	05/08/2022	561226.98	175847.62	4.71
BH102	CP DS + RC	40.50	26/07/2022	03/08/2022	561158.66	175833.45	4.68
BH103	CP DS + RC	38.00	19/07/2022	28/07/2022	561242.19	175806.43	4.97
BH104	CP DS + RC	38.50	09/08/2022	22/08/2022	561197.09	175743.24	5.31
BH105	CP DS + RC	38.00	04/08/2022	11/08/2022	561252.77	175747.43	6.07
BH106	CP DS + RC	33.50	09/08/2022	25/08/2022	561258.35	175707.79	4.92
WS101	WLS	6.00	14/07/2022	10/08/2022	561181.10	175827.88	4.79
WS102	WLS	6.00	14/07/2022	10/08/2022	561196.55	175843.62	4.83
WS103	WLS	6.00	13/07/2022	14/08/2022	561231.26	175763.75	5.78
WS104	WLS	4.00	13/07/2022	11/08/2022	561228.45	175734.66	5.66
WS105	WLS	6.00	21/07/2022	11/08/2022	561247.84	175737.18	6.04
WS106	WLS	2.00	21/07/2022	11/08/2022	561267.89	175737.51	5.64
DP101	DP	6.00	10/08/2022	10/08/2022	561181.04	175835.33	4.80
DP102	DP	6.00	10/08/2022	10/08/2022	561197.80	175842.18	4.81
TP101	TP	4.00	15/07/2022	15/07/2022	561197.87	175799.78	4.72
TP102	TP	3.70	15/07/2022	15/07/2022	561205.07	175755.25	5.46
TP103	TP	4.00	15/07/2022	15/07/2022	561252.03	175770.44	5.94

Location	Hole Type	Depth (m bgl)	Start date	End date	Easting	Northing	Level (mAOD)
TP104	TP	4.00	15/07/2022	15/07/2022	561226.86	175740.85	5.72
HP101	IP	0.30	14/07/2022	14/07/2022	561240.98	175856.26	4.70
HP102	IP	0.50	14/07/2022	14/07/2022	561239.75	175853.50	4.78

Key: BH = Cable Percussive Borehole with dynamic sample and rotary core follow-on, WLS = Window Sample borehole, DP = Dynamic Probe, TP = Machine Dug Trial Pit, HP = Hand Pit.

During fieldwork, a specialist Unexploded Ordnance (UXO) Engineer, provided by Fellows International Ltd, was used to provide a watching brief and down borehole magnetometer survey for all intrusive works. The UXO report is presented in Appendix B.

Magnetometer tests were also undertaken by In-situ Site Investigation Ltd, on behalf of CCGI using a 20-tonne track mounted CPT rig. Magnetometer probes were undertaken adjacent to all BH101-BH106 locations to check for UXO risk.

A specialist utility survey contractor: Land Utility Group UK Ltd, was contracted on behalf of CCGI to undertake utility scanning at all exploratory hole locations using cable avoidance tools and Ground Penetrating Radar (GPR).

All fieldworks were carried out in general accordance with BS5930: 2015+A1:2020.

3.2 Cable Percussive Boreholes

Six boreholes, referenced BH101C, BH102, BH103, BH104, BH105 and BH106 (Appendix B) were formed using a towable Dando 3000 cable percussion drilling rig. Following CAT scanning, UXO clearance and clearance by ground penetrating radar (GPR) hand tools were used to excavate inspection pits to a maximum depth of 1.20m to check for the presence of buried services. Bulk, small disturbed and environmental soil samples were taken and retained from the inspection pits. Locations referenced BH101, BH101A and BH101B were terminated in the inspection pit due to refusals/obstructions and relocated to BH101C. The boreholes were then advanced using cable percussion techniques to produce small and bulk disturbed samples which were logged on site by an engineering geologist.

Environmental Bentonite seals were placed at base of Made Ground and upon encountering chalk and casing reduced as instructed by the Engineer and details on the logs. On encountering chalk, the boreholes were continued by rotary percussive and core drilling techniques (See section 3.3).

3.3 Rotary Boreholes

Six boreholes, referenced BH101C, BH102, BH103, BH104, BH105 and BH106 (Appendix B) were advanced, following termination of cable percussive techniques

by a multi-purpose drilling rig (Fraste PLG) using rotary percussive sampling techniques to produce continuous disturbed samples ranging between 112mm and 98mm diameter.

Upon encountering suitable strata the boreholes were continued by rotary core drilling techniques utilising a water flush. A double-tube swivel core barrel with a semi-rigid plastic liner was utilised to recover continuous cores of 94mm diameter. Where appropriate, dynamic sampling techniques were carried out to recover dropped core or where rotary core drilling was not suitable.

Soil and rock samples were retained in semi-rigid plastic liners and where appropriate, liners were capped or taped on site to prevent moisture loss.

3.4 Dynamic Sampling Boreholes

Six windowless sample boreholes, referenced WS101, WS102, WS103, WS104, WS105 and WS106 (Appendix B), were formed using a track mounted Terrier drilling rig. Following CAT scanning and clearance by GPR hand tools were used to excavate inspection pits to a maximum depth of 1.20m to check for the presence of buried services. Bulk, small disturbed and environmental soil samples were taken and retained from the inspection pits. The boreholes were then advanced using percussive sampling techniques to produce continuous disturbed samples ranging between 83mm and 61mm diameter.

Soil samples were retained in semi-rigid plastic liners and where appropriate, liners were capped on site to prevent moisture loss.

3.5 Undisturbed Samples

Undisturbed samples of 100mm nominal diameter were taken in suitable fine soils using a thin-walled open-tube sampler (OS-T/W – U(T)100).

Open-tube sampler apparatus conforms to the geometry set out in BS EN ISO 22475-1: 2006. Samples were dynamically driven using a drop weight (SPT hammer). The open tube samples were wax sealed on site to prevent moisture loss and cutting shoe samples retained, where appropriate.

3.6 Groundwater Monitoring

Boreholes were monitored for groundwater ingress as they were advanced. Upon encountering water, sampling was temporarily stopped to allow the level to stabilise. Water levels were also recorded at the start and finish of each shift and on completion of the borehole and are presented on the relevant log.

3.7 Backfill and Installations

On completion a dual combined gas and water monitoring standpipes were installed in BH101C, BH102, BH104, BH105 and, WS101, WS102, and WS105. Each installation consisted of a 19mm ID PVC slotted tube and a 50mm ID HDPE slotted tube both set in a filter response zone of granular filter medium at depths

instructed by the Engineer. The installations were sealed above and below with a bentonite pellet seal and accessed via a valve assembly. The installations were protected at the surface by a lockable, stopcock cover set in concrete. Installation details are given on the relevant borehole log.

On completion combined gas and water monitoring standpipes were installed in BH103 and, WS103, WS104 and WS106. Each installation consisted of a 50mm ID HDPE slotted tube set in a filter response zone of granular filter medium. The installations were sealed above and below with a bentonite pellet seal and accessed via a valve assembly. The installations were protected at the surface by a lockable, lockable stopcock cover set in concrete. Installation details are given on the relevant borehole log.

On completion, TP101, TP102, TP103 and TP104; HP101 and HP102. were backfilled with compacted arisings and the surface reinstated. CPT magnetometer locations adjacent to boreholes were reinstated at surface. BH106 was backfilled with bentonite and reinstated.

3.8 In-situ Testing

Standard penetration tests (SPTs) were carried out in general accordance with BS EN ISO 22476-3:2011. A split barrel or a solid cone was used depending upon the materials encountered and the split barrel samples retained as small disturbed samples. The SPT N-value was taken as the number of blows to penetrate the 300mm test drive following a 150mm seating drive. Where low penetration was recorded the seating drive was terminated at 25 blows and the test drive completed after a further 50 blows. SPT results are summarised as uncorrected N-values on the borehole logs and in the summary table included in Appendix B. SPT hammer calibration data is presented in Appendix E.

Hand shear vane tests were carried out using a direct read Pilcon Simmons Edeco hand vane where possible. The results are presented on the relevant exploratory hole logs in Appendix B.

3.9 Trial Pits

Following CAT scanning, UXO clearance and clearance by GPR, four trial pits, referenced TP101, TP102, TP103 and TP104, (Appendix B) were excavated using a JCB 3CX mechanical excavator with a 45cm wide backactor bucket.

Representative bulk, small disturbed and environmental soil samples were retained in airtight containers.

On completion all trial pits were backfilled with compacted arisings. The ground surface was reinstated and left slightly mounded to accommodate future settlement.

3.10 Dynamic Probing

Two dynamic probes, referenced DP101 and DP102 (Appendix A), were carried out using a Terrier Rig. Probing was undertaken in accordance with the methodology recommended by BS EN ISO 22476: Part 2: (2012) using a sacrificial cone and DPSH-B configuration.

Probe depths were measured with respect to ground level and the number of blows, n100 , recorded for each 100mm penetration of the probe. At the end of each 1m penetration the maximum torque acting on the rods was measured.

3.11 Photographic Record

A photographic record of the trial pits, inspection pits and boreholes was maintained including photographs of trial pit profiles and spoil as well as liners recovered from boreholes and windowless sample boreholes.

Photographs are presented in Appendix C.

3.12 Surveying and Sample Storage

Subsequent to fieldwork, all exploratory hole positions were surveyed. National Grid co-ordinates and levels are presented on the relevant log.

On completion of fieldwork all samples were brought to CCGI's office for storage.

3.13 Logging

Soil and rock samples from the exploratory holes were logged by an engineering geologist in general accordance with BS5930: 2015+A1:2020, BS EN ISO 14688 [Parts 1 and 2], BS EN ISO 14689:2017 and CIRIA C574.

Soil and rock descriptions are presented in the borehole logs together with details of sampling, in-situ testing and relevant comments on drilling and trial pitting techniques. The borehole logs are presented in Appendix B.

Class 1 subsamples were taken by the engineering geologist at specified intervals from the core samples immediately on extraction of the core sample from the core barrel. The subsamples were then sealed to prevent moisture loss, labelled and then samples stored and transported to minimise sample disturbance.

3.14 Geotechnical Laboratory Testing

The following laboratory tests were carried out by [Professional Soils Laboratory (UKAS No. 4043) in accordance with BS1377:1990, Parts 1 to 8 and BRE SD1:2005, unless otherwise stated. The results are presented in Appendix D and summarised in the table below. *Please note this interim report shows testing scheduled and will be revised once all lab testing is complete.*

Table 2 Geotechnical testing

Test type	No. of tests	Remarks
Water Content	54	The results are included on the summary of soil classification tests.
Liquid and Plastic Limits	28	The results are shown on the plasticity chart and summary of soil classification tests.
Particle Size Distribution (wet sieving method)	24	The fine fractions of 23 of these tests were further analysed using the pipette method.
Particle Size Distribution (pipette method)		
Saturated moisture content chalk	6*	*1no Non-conformance report received to date due to insufficient intact chalk.
Organic Matter Content	33	
One Dimensional Consolidation	2	E/O Days TBC
Shear strength of a single 300mm x 300mm square specimen by direct shear	12	E/O Days TBC
Quick Undrained Triaxial Test	20	Undertaken on Class 1 sub-samples
Uniaxial Compressive Strength	7	ISRM Part 2
Point Load Strength	3	ISRM RTH 325-89 SR12
BRE SD1 chemical testing suite for soil and water	40	Testing carried out by Chemtech Environmental in accordance with BRE Special Digest 1.

4 REFERENCES

British Geological Survey, Solid and Drift Sheet [271, Dartford], 1: 50,000 scale

BS 1377 Parts 1 to 9: (1990), Methods of Tests for Soils for Civil Engineering Purposes.

BS5930: 2015+A1:2020, Code of Practice for Ground Investigations.

BS EN ISO 14688-1:2018 Geotechnical investigation and testing. Identification and classification of soil. Part 1: Identification and description.

BS EN ISO 14688-2:2018 Geotechnical investigation and testing. Identification and classification of soil. Part 2: Principles for a classification.

BS EN ISO/IEC 14689:2017 Geotechnical investigation and testing. Identification, description and classification of rock.

BS EN ISO 17025:2017, General requirements for the competence of testing and calibration laboratories.

BS EN ISO 22476 - 2: 2012, Dynamic probing.

BS EN ISO 22476-3:2005+A1:2011 Geotechnical Investigation and Testing – Field Testing - Part 3: Standard Penetration Test.

CIRIA C574: (2002), Engineering in Chalk

ISRM (International Society for Rock Mechanics), Part 2, Suggested Methods for Determining the Uniaxial Compressive Strength of Rock Material.

ISRM RTH 325-89 SR12, Suggested Method for Determining Point Load Strength.

APPENDIX A

Site Plan

KEY:

- CP/DS&RC Borehole
- Dynamic Probe
- Hand dug pit
- Trial Pit
- Window Sample Borehole

Notes:

Locations indicative only
Reproduced from available imagery..

CC Ground Investigations Ltd

Site Plan

BRM Area 4

Britannia Refined Metals (BRM) Ltd

Appendix A

Contract No: C7644

Drawn by:	Scale:
AK	NTS

APPENDIX B

Exploratory Hole Data

FELLOWS

The UXO risk management experts

Part of the Optima Group

UXO Risk Management Survey Report

FIL Reference: 3397L

Client: CC Ground Investigations Ltd

Project: BRM Northfleet

Site Location: Former Marine CMP Yard, Off Manor Way, Northfleet, DA11 9BB

Date: 01 August 2022

Document Control

Version Date	Version	Author	Reviewer	Comments
01 Aug 22	1.0	Vicky Harper	Carl Parnell	Original

Quality Check

Version Date	Version	Checked by	Comments
01 Aug 22	1.0	Michelle Mackenzie	QC / format check

Document Approval

	Reviewed by	Approved by
Signature		
Print Name	Mark Khan AIExpE	Carl Parnell IExpE
Date	01 August 2022	01 August 2022

Distribution

Date	Copy No.	Recipient	Format
01 Aug 22	1	CC Ground Investigations Ltd	PDF
01 Aug 22	1	Fellows International Ltd	PDF

Contents

1. Project Details

Client:	CC Ground Investigations Ltd
Project Objectives:	To locate, using electromagnetic means, any Unexploded Ordnance [UXO] that could pose a risk to intrusive engineering ground investigation works. Deliver UXO Awareness Brief to the team on site.
Location:	Former Marine CMP Yard, Off Manor Way, Northfleet, DA11 9BB
Dates:	12 -15 July 22

2. Equipment

UXO Locators:	Ebinger Magnex 120LW Magnetometer

3. Method

A single UXO Survey Engineer utilised an Ebinger Magnex 120LW Magnetometer to identify possible UXO in the vicinity of the ground investigation positions in accordance with Fellow's methodology dated 15 June 2022.

See GI Position Log for details.

4. Results & Recommendations

No evidence of UXO was found in the cleared areas. A UXO Clearance Status Certificate is attached.

NOTE: *Only the positions of the ground investigation listed on the GI Position Log are certified free from UXO. If it is intended to conduct intrusive ground engineering operations outside of these surveyed positions a danger from UXOs still exists and the site should be surveyed for any UXO contamination before any future groundwork starts.*

5. Unexploded Bomb (UXB) Penetration Depth

The magnetometer survey depth at each GI position is individually assessed taking into account the estimated maximum penetration depth for a typical WWII aerial weapon in relation to the ground conditions encountered. Unless otherwise stated, the depth achieved is that considered sufficient to clear the position for UXBs.

FELLOWS

Commercial in Confidence

UXO Clearance Status Certificate

Site Name: Former Marine CMP Yard, Off Manor Way, Northfleet, DA11 9BB

FIL Ref. 3397L

Date of Certificate: 01 August 2022

The Unexploded Ordnance (UXO) clearance status for each GI position is indicated on the attached GI Position Log to the logged depth (referenced to ground level), subject to the limitations outlined below. The GI positions cleared were identified to the Fellows UXO Engineer by the onsite Engineer.

Fellows UXO Survey Engineer: Mick Willis

Limitations

Detection of a UXOs depends on a sufficient magnetic susceptibility contrast between the UXO and its host materials. Significant degradation of the casing of such a device or highly magnetic soils may prevent detection under certain circumstances.

The radius of detection (from each GI position) for a particular type of UXO depends on several parameters including the sensor system used, the size and orientation of the device and the levels of ambient magnetic noise on the site. High levels of noise may prevent detection in certain areas.

GI Position Log

GI No.	Cleared Yes/No	Equipment / Search Used	Survey Depth	Remarks
BH 103	Yes	Ebinger Magnex 120LW Magnetometer	15m	Hard ground until 2m then soft ground no anomalies detected (pre dug to 1.2m)
BH 104	Yes	Ebinger Magnex 120LW Magnetometer	15m	Hard ground until 2m then soft ground no anomalies detected (pre dug to 1.2m)
BH 101B	Yes	Ebinger Magnex 120LW Magnetometer	1.65m	Refusal due to ground being concreate (pre dug to 1.2m very hard ground in the area BH moved location twice already.
BH 102	Yes	Ebinger Magnex 120LW Magnetometer	15m	Asphalt surface, compressed Aggregate, 1m silty gravel/aggregate. (Pre dug to 1.2m)
BH 101c	Yes	Ebinger Magnex 120LW Magnetometer	15m	started probe CPT 6 stopped and repositioned same hole due to rock. (pre dug to 1.2m)
BH 106	Yes	Ebinger Magnex 120LW Magnetometer		Concrete surface, rebar enforced, (pre dug to 1.2m)
TP 103a	Yes	Ebinger Magnex 120LW Magnetometer	6m	hard ground until 2m then soft ground no anomalies detected (pre dug to 1.2m)

FELLOWS

The UXO risk management experts

Part of the Optima Group

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CC Ground Investigations Ltd

KEY TO EXPLORATORY HOLE LOGS

The logging of soils and rocks has been carried out in general accordance with BS5930: 2015+A1:2020 and BS EN ISO 14688 [Parts 1 and 2]. Where appropriate logging to CIRIA C570 or CIRIA C574 has been adopted.

Sample type

B	Large disturbed sample
C	Core run
CS	Rotary core sub-sample
D	Small disturbed sample
ES	Environmental sample
SPT	Standard penetration test carried out using split spoon (split spoon sample retained)
SPT C	Standard penetration test carried out using solid cone (no sample retained)
U70 or U100	Undisturbed sample followed by nominal dia. of sample. (Using thick-walled open-tube sampler – OS-TK/W)
UT100	Undisturbed sample followed by nominal dia. of sample. (Using thin-walled open-tube sampler – OS-T/W)
W	Water sample

Water levels

Initial Water Strike

Level after monitoring

3.00m/Dry

Standing Level/No groundwater encountered

Insitu Testing

S 30	Denotes SPT undertaken using split spoon followed by N Value (EN ISO 22476-3:2005+A1:2011)
C 30	Denotes SPT undertaken using solid cone followed by N Value (EN ISO 22476-3:2005+A1:2011)
*240	Denotes SPT where full test drive has not been completed and linearly extrapolated N value reported
**	Denotes no effective penetration (Linearly extrapolated N value > 1000)
H 30	Hand shear vane. Direct reading in kPa

Sample range

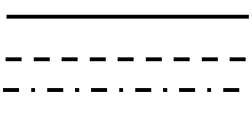
Undisturbed sample

Core run

U(T)100 Undisturbed Samples

Rotary core sub-sample

Strata Boundaries



Solid boundary

Estimated boundary

Gradational boundary

Installation Details

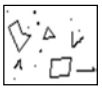
Porous Tip

Screened Standpipe

Bentonite seal

Plain standpipe

Granular response zone



Concrete

Grout

Backfill with arisings

Revision history

Version	Date	Author	Reviewed by	Reason for revision
V1	19/08/20	E. Withington	M. Atherton	First issue (new format)

CC Ground Investigations Ltd

ROTARY BOREHOLE LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Borehole No. **BH101C**

Sheet 1 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561227 N 175848	Hole Type CP+RC
Location: Northfleet		Level: 4.71mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 01/08/2022 End: 05/08/2022	Logged By TH/RB/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.10 - 0.50					MADE GROUND: Greyish brown slightly sandy slightly clayey silty angular to sub-angular fine to coarse GRAVEL of brick, concrete, siliceous material, clinker, ash and limestone with occasional rootlets (<1mm).			
		B	0.50 - 1.00						(1.00)		
1		B	1.00 - 1.20					MADE GROUND: Brownish grey slightly gravelly silty SAND. Gravel is angular to sub-angular fine to coarse of concrete. Sand is fine to coarse.	1.00	3.71	1
		B	1.20 - 2.00						1.10	3.61	
								MADE GROUND: Dark brownish grey slightly sandy clayey fine to medium angular to sub-angular GRAVEL of siliceous material, brick and slag. 1.20m: SPT not taken due to boulders.	1.35	3.36	
									(0.65)		
2		B	2.00 - 3.00					MADE GROUND: Grey mottled brown slightly gravelly sandy CLAY. Gravel is sub-angular fine to coarse of concrete, siliceous material, chalk and ash.	2.00	2.71	2
		D H	2.50	15				Soft grey mottled black and brown silty CLAY with frequent pockets of organic material (<20mm).	(1.00)		
3		B SPT	3.00 - 4.00 3.00 - 3.45	S 2				Very soft dark grey silty CLAY. 3.00m: SPT 3.00-3.45m: No recovery.	3.00	1.71	3
		H	3.50	5							
4		B D UT100	4.00 - 5.00 4.00 4.00 - 4.45					4.00m: Soft.	(2.20)		4
		D H	4.45 - 4.55 4.50	11							
5		B SPT	5.00 - 6.50 5.00 - 5.45	S 1				5.00m: SPT 5.00-5.45m: No recovery. Very soft locally soft dark grey silty CLAY with frequent partially decomposed wood fragments and pockets of pseudo-fibrous peat (<30mm).	5.20	-0.49	5
6		D H	6.00	21							6
		B UT100	6.50 - 8.00 6.50 - 6.95								
7		D H	6.95 - 7.05 7.00	10							7
									(4.30)		
8											8

EQUIPMENT: Handheld hand digging tools. Dando 3000 cable percussion rig. Fraste Multi-drill PL(G) track mounted rig.
METHOD: Hand dug inspection pit: 0.00-1.20m. Cable percussion drilled using 250mm, 200mm and 150mm diameter clay cutter and bailer 1.20-24.50m Dynamic sampled using a 113mm sample barrel: 25.00-29.00m. Waterflush rotary coring using a T6-116 coring barrel: 29.00-39.30m.
CASING: 250mm diam to 2.00m, 200mm diam to 12.20m and 150mm to 24.50m with bentonite seals 1.00-2.00m and 23.50-24.50m. PW casing to 29.00m.
GROUNDWATER: Damp at 8m, sealed at 9.50m. Groundwater encountered 17.00m, settled at 8.30m following monitoring.
INSTALLATION: Bentonite pellet backfill: 23.50-39.30m. 50mm ID HDPE slotted pipe with washed gravel response zone: 19.50-23.50m. 50mm ID HDPE plain pipe (0.20-19.50m) with bentonite pellet seal: 14.00-19.50m. 19mm ID PVC slotted pipe with washed gravel response zone 3.50-14.00m and 19mm ID plain pipe with bentonite pellet seal 0.20-3.50m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valves fitted.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
03/08/22	17.00	19.00	8.30

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
01/08/2022 17:00	2.00		
02/08/2022 08:00	2.00		

CC Ground Investigations Ltd

ROTARY BOREHOLE LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Borehole No. **BH101C**

Sheet 2 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561227 N 175848	Hole Type CP+RC
Location: Northfleet		Level: 4.71mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 01/08/2022 End: 05/08/2022	Logged By TH/RB/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B SPT	8.00 - 9.50 8.00 - 8.45	S 3				Very soft locally soft dark grey silty CLAY with frequent partially decomposed wood fragments and pockets of pseudo-fibrous peat (<30mm). *(continued from previous sheet)* 8.00-9.50m: Very soft.			
9		D H	9.00	2							9
		B UT100	9.50 - 11.00 9.50 - 9.95					Very soft grey mottled dark brown silty CLAY with frequent organic material.	9.50	-4.79	
10		D D H	9.95 - 10.05 10.00	5					(1.50)		10
11		B SPT	11.00 - 12.50 11.00 - 11.45	S 11				Soft dark grey, brown and orange silty CLAY with frequent pockets of partially decomposed organic material and lenses of psuedo-fiborous peat.	11.00	-6.29	11
12		D H	12.00	18					(3.00)		12
		B UT100	12.50 - 14.00 12.50 - 12.95								
13		D	12.95 - 13.05								13
14		B SPT	14.00 - 15.50 14.00 - 14.45	S 10				Soft dark grey silty CLAY.	14.00	-9.29	14
15		H	15.00	5							15
		B UT100	15.50 - 17.00 15.50 - 15.95						(3.00)		
16		D D	15.95 - 16.05 16.00								16
17		B D	17.00 - 18.50 17.10					Very soft grey very sandy silty CLAY. 17.00m: SPT 17.00-17.45m: SPT not taken, casing dropped 2m beyond.	17.00	-12.29	17

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
02/08/2022 17:00	11.00	10.70	
03/08/2022 08:00	11.00	11.00	10.70

CC Ground Investigations Ltd

ROTARY BOREHOLE LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Borehole No. **BH101C**

Sheet 3 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561227 N 175848	Hole Type CP+RC
Location: Northfleet		Level: 4.71mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 01/08/2022 End: 05/08/2022	Logged By TH/RB/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
18		H	18.00	8				Very soft grey very sandy silty CLAY. *(continued from previous sheet)*	(2.00)		
								18.50m: SPT 18.50-18.95m: SPT not taken, casing dropped 2m beyond.			
19		B	19.00 - 20.00					Grey slightly very sandy silty angular to sub-rounded fine to coarse GRAVEL of flint and siliceous material.	19.00	-14.29	
		D	19.50								
20		B	20.00 - 21.50					20.00m: SPT 20.00-20.45m: SPT not taken, casing dropped 2m beyond. 20.00m: Becoming orangish brown. Silt absent.			
21									(4.50)		
		B	21.50 - 23.00					21.50m: SPT 21.50-21.95m: SPT not taken, casing dropped 2m beyond.			
22		D	22.00								
23		B	23.00 - 23.50					23.00m: SPT 23.00-23.45m: SPT not taken, casing dropped 2m beyond.			
		B	23.50 - 24.50					Recovered as structureless CHALK composed of cream slightly silty slightly sandy angular to sub-angular fine to coarse GRAVEL. Clasts are weak low density with occasional angular to rounded fine to coarse gravel of flint. Matrix is cream. (Grade Dc)	23.50	-18.79	
24		D	24.00						(1.00)		
		SPT	24.50 - 24.95	S 9				Structureless CHALK composed of cream slightly sandy slightly silty sub-angular to angular fine to coarse GRAVEL. Clasts are weak and low to medium density. [Grade Dc].	24.50	-19.79	
25											
		D	25.80					25.80-26.00m: Thin bed of very weak chalk. Medium density. Non-intact. [Grade Dc to C5].			
26		SPT	26.00 - 26.45	S 29					(4.50)		
27		D	27.00					27.00m: Clasts are locally medium to high density. Speckled black 27.00m: Becoming white.			

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
03/08/2022 17:00	24.50	24.50	12.00
04/08/2022 08:00	24.50	24.50	6.02

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ROTARY BOREHOLE LOG

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Borehole No. **BH101C**

Sheet 4 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561227 N 175848	Hole Type CP+RC
Location: Northfleet		Level: 4.71mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 01/08/2022 End: 05/08/2022	Logged By TH/RB/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
28		SPT	27.50 - 27.95	S 24				Structureless CHALK composed of cream slightly sandy slightly silty sub-angular to angular fine to coarse GRAVEL. Clasts are weak and low to medium density. [Grade Dc]. *(continued from previous sheet)*			
		D	28.00								
29		C SPT	29.00 - 30.50 29.00 - 29.27	S*88	C	77% 0% 0%		Weak medium density cream with frequent black specks CHALK. Discontinuities randomly orientated, very closely to closely spaced and intersecting planar rough, infilled with cream silt size comminuted chalk and locally stained orangish brown. (Grade C5). 29.00m: 1no. Flint cobble (900x700x800mm).	29.00	-24.29	
30		D	30.00					30.00-30.50m: Becoming grey white with occasional black speckles and orangish brown staining.			
		C	30.50 - 32.00		C	84% 0% 0%		30.50-33.50m: Greyish white.			
31		D	31.00								
32		C	32.00 - 33.50		C	84% 16% 0%		32.60-32.90m: With orangish brown staining. Discontinuities are extremely closely spaced. (Grade C5)	(7.50)		
33		D	33.00								
		C	33.50 - 35.00		C	83% 15% 7%					
34		D	34.00					34.00-35.00m: Structureless chalk composed of off-white slightly sandy slightly silty fine to coarse gravel. Clasts are weak low to medium density. (Grade Dc)			
35		C CS	35.00 - 36.50 35.00 - 35.20		C	98% 58% 20%					
36		D	36.00								
		C	36.50 - 38.00		C	67% 38% 9%		Weak high density white and off white CHALK. Discontinuities are sub-horizontal, medium spaced, planar rough infilled with white silty comminuted chalk. [Grade C2].	36.50	-31.79	
37											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
04/08/2022 17:00	29.00	29.00	3.15
05/08/2022 08:00	29.00	29.00	3.15

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Borehole No. **BH101C**

Sheet 5 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561227 N 175848	Hole Type CP+RC
Location: Northfleet		Level: 4.71mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 01/08/2022 End: 05/08/2022	Logged By TH/RB/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
38		CS	37.20 - 37.32		C			Weak high density white and off white CHALK. Discontinuities are sub-horizontal, medium spaced, planar rough infilled with white silty comminuted chalk. [Grade C2]. *(continued from previous sheet)* 37.40m: Flint cobble recovered as gravel.			
		D	37.90					37.90m: Flint cobble recovered as gravel.	(2.80)		
		C	38.00 - 39.00			100% 73% 66%					
		CS	38.43 - 38.60		C						
39		C	39.00 - 39.26								
		D	39.20 - 39.30		C						
		SPT C	39.30 - 39.56	C*103				Borehole completed at 39.30m	39.30	-34.59	
40											
41											
42											
43											
44											
45											
46											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
05/08/2022 17:00	39.00	29.00	4.63

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Borehole No. **BH102**

Sheet 1 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561159 N 175833	Hole Type CP+RC
Location: Northfleet		Level: 4.68mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 26/07/2022 End: 03/08/2022	Logged By SB/TH/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.10					MADE GROUND: Tarmacadam.	0.10	4.58	
		B	0.40					MADE GROUND: Dark brownish grey slighlty clayey sandy angular to sub-rounded fine to coarse GRAVEL of ash, clinker, slag, brick, concrete and siliceous material with low cobble content. Cobbles are sub-rounded of siliceous material.	0.40	4.28	
		B	0.60						0.65	4.03	
1								MADE GROUND: Grey slightly clayey slightly sandy angular to sub-rounded fine to coarse GRAVEL of flint.	(0.55)		1
		B	1.20	C 1				MADE GROUND: Greyish brown slightly sandy angular to sub-rounded GRAVEL of flint.	1.20	3.48	
		SPT C	1.20 - 1.65								
2								Very loose dark grey slightly gravelly clayey SAND with occasional partially decomposed organic material (<5mm) and slight organic odour. Gravel is sub-angular to sub-rounded fine to coarse of flint. Sand is fine to coarse.	(1.80)		2
		B	2.00	C 2							
		SPT C	2.00 - 2.45								
3		B	3.00	S 2				Very soft dark grey mottled black slightly sandy silty CLAY with frequent pockets of partially decomposed organic matter (<20mm).	3.00	1.68	3
		SPT	3.00 - 3.45								
4		B	4.00								4
		UT100	4.00 - 4.45								
		D	4.45								
5		B	5.00	S 4				5.00m: SPT = no recovery.			5
		SPT	5.00 - 5.45						(5.00)		
6											6
		B	6.50								
		UT100	6.50 - 6.95								
7		D	6.95					7.00m: With occasional partially decomposed organic material (<10mm).			7
8											8

EQUIPMENT: Handheld hand digging tools. Dando 3000 cable percussion rig. Fraste Multi-drill PL(G) track mounted rig.
METHOD: Hand dug inspection pit: 0.00-1.20m. Cable percussion drilled using 200mm and 150mm diameter clay cutter and bailer 1.20-22.50m. Dynamic sampled using a 113mm sample barrel: 22.50-29.00m. Waterflush rotary coring using a T6-116 coring barrel: 29.00-40.50m.
CASING: 200mm diam to 18.00m and 150mm to 20.00m with bentonite seals GL-1.00m and 21.00-22.50m. PW casing to 29.00m.
GROUNDWATER: Damp at 1.20m, then sealed. Encountered at 18.50m, settled at 7.60m following a 20minute period.
INSTALLATION: Bentonite pellet backfill: 21.50-40.50m. 50mm ID HDPE slotted pipe with washed gravel response zone: 20.00-21.50m. 50mm ID HDPE plain pipe (0.20-20.00m) with bentonite pellet seal: 12.00-20.00m. 19mm ID PVC slotted pipe with washed gravel response zone 3.50-12.00m and 19mm ID plain pipe with bentonite pellet seal 0.20-3.50m). Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valves fitted.
REMARKS: 29.07.2022 Gravels risen to 17.00m overnight.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
26/07/22	0.95		0.95
28/07/22	18.50	18.00	7.60

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
26/07/2022 17:00	1.00		
27/07/2022 08:00	1.00		

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Borehole No. **BH102**

Sheet 2 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561159 N 175833	Hole Type CP+RC
Location: Northfleet		Level: 4.68mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 26/07/2022 End: 03/08/2022	Logged By SB/TH/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B SPT	8.00 8.00 - 8.45	S 4				Firm dark brown plastic fibrous PEAT.	8.00	-3.32	
									(1.50)		
9											9
		B UT100	9.50 9.50 - 9.95					Very soft dark greyish brown CLAY with occasional partially decomposed organic material (>2mm).	9.50	-4.82	
10		D	9.95								10
11		B SPT	11.00 11.00 - 11.45	S 5					(3.00)		11
12											12
		B UT100	12.50 12.50 - 12.95					12.50-14.00m: Soft dark grey slightly sandy silty clay. Soft dark grey slightly sandy CLAY.	12.50	-7.82	
13									(1.50)		13
14		B SPT	14.00 14.00 - 14.45	S 5				Very soft dark greyish brown CLAY with occasional partially decomposed organic material (>2mm).	14.00	-9.32	14
15											15
		B UT100	15.50 15.50 - 15.95					15.50m: Becoming firm and micaceous.			
16		D	15.95						(4.50)		16
17		B SPT	17.00 17.00 - 17.45	S 9							17

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
27/07/2022 17:00	13.05	12.70	5.50
28/07/2022 08:00	12.50	12.70	

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Borehole No. **BH102**

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561159 N 175833	Hole Type CP+RC
Location: Northfleet		Level: 4.68mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 26/07/2022 End: 03/08/2022	Logged By SB/TH/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
18								Very soft dark greyish brown CLAY with occasional partially decomposed organic material (>2mm). *(continued from previous sheet)*			
		B	18.50					18.50m: SPT C not taken due to casing dropped beyond test depth. Grey clayey fine to coarse SAND with pockets of sandy clay (<20mm). Sand is fine to coarse.	18.50 (1.00)	-13.82	
19		B	19.50					Greyish brown slightly clayey angular to sub-angular fine to medium GRAVEL of siliceous material.	19.50 (0.50)	-14.82	
20		B	20.00	S 12				Medium dense brown sandy angular to rounded fine to coarse GRAVEL of flint and siliceous material.	20.00	-15.32	
		SPT C	20.00 - 20.45						(1.50)		
21		B	21.50					Structureless CHALK composed of sub-angular to sub-rounded fine to coarse GRAVEL. Clasts are weak low density off-white with occasional orange specks and staining. Frequent angular to sub-rounded fine to coarse flint gravel. Matrix creamy orange. [Grade Dc] 21.50m: SPT C not taken due to casing dropped beyond test depth.	21.50	-16.82	
22		SPT	22.50 - 22.95	S 27				From 22.50m: Flint absent.			
23		D	23.00								
24		SPT	24.00 - 24.45	S 20							
		D	24.50					24.40-24.70: With rare gravel of rinded flint.			
25		SPT	25.50 - 25.95	S 26				From 25.50m: Chalk clasts are weak medium density. Locally stained orangish brown.	(8.50)		
26		D	26.00								
27		SPT	27.00 - 27.45	S 21							

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
28/07/2022 17:00	22.50	20.00	
29/07/2022 08:00	22.50	20.00	
29/07/2022 17:00	22.50	20.00	
01/08/2022 08:00	20.50	22.50	3.08

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Borehole No. **BH102**

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561159 N 175833	Hole Type CP+RC
Location: Northfleet		Level: 4.68mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 26/07/2022 End: 03/08/2022	Logged By SB/TH/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
28		D	28.00					Structureless CHALK composed of sub-angular to sub-rounded fine to coarse GRAVEL. Clasts are weak low density off-white with occasional orange specks and staining. Frequent angular to sub-rounded fine to coarse flint gravel. Matrix creamy orange. [Grade Dc] *(continued from previous sheet)*			
		SPT	28.50 - 28.95	S 26							
29		C	29.00 - 30.00		C	77% 0% 0%					
		D	29.80					29.80m-30.00m: Rare orange speckling.			
30		C SPT	30.00 - 31.50 30.00 - 30.45	S 38	C	90% 10% 0%		Weak medium density cream and stained orangish brown with frequent black specks CHALK. Discontinuities randomly orientated, very closely to closely spaced and intersecting planar rough, infilled with cream silt size comminuted chalk and locally stained orangish brown. (Grade C2)	30.00	-25.32	
31		D C	31.40 31.50 - 33.00		C	100% 31% 20%					
32		D	32.00		C			32.00 & 32.90m: 2no flint gravels.			
33		CS C CS	32.85 - 33.00 33.00 - 34.50 33.00 - 33.15		C	100% 50% 40%		33.20-33.80m: Orange brown stained.	(5.80)		
		D	33.50								
34					C			34.24-34.40m: Structureless: Grade Dc.			
		C	34.50 - 36.00			100% 46% 33%					
35		CS	35.00 - 35.20		C						
		D	35.25								
								35.60m: 1no. flint cobble, recovered as gravel sized fragments.	35.80	-31.12	
36		C D CS	36.00 - 37.50 36.00 36.15 - 36.40		C	100% 75% 63%		Weak medium density white occasionally speckled black unstained CHALK. Discontinuities are medium spaced clean or infilled with cream comminuted chalk occasional orangish brown stained. Discontinuities are sub-horizontal, sub-vertical to vertical undulating rough. Occasional rinded flinted cobbles (<20mm). [Grade C4]			
37											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
01/08/2022 17:00	28.50	27.00	3.52
02/08/2022 08:00	28.50	27.00	4.62

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Borehole No. **BH102**

Sheet 5 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561159 N 175833	Hole Type CP+RC
Location: Northfleet		Level: 4.68mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 26/07/2022 End: 03/08/2022	Logged By SB/TH/SPM

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
38		CS	37.10 - 37.33		C			Weak medium density white occasionally speckled black unstained CHALK. Discontinuities are medium spaced clean or infilled with cream comminuted chalk occasional orangish brown stained. Discontinuities are sub-horizontal, sub-vertical to vertical undulating rough. Occasional rinded flinted cobbles (<20mm). [Grade C4] *(continued from previous sheet)*			
		C	37.50 - 39.00			100% 62% 54%					
		CS	38.13 - 38.63		C				(4.70)		
		D	38.50					From 38.70m: With occasional flint cobbles.			
39		C	39.00 - 40.50			100% 66% 64%					
					C						
40		D	40.00								
		CS	40.40 - 40.50								
		SPT C	40.50 - 40.72	C*136				Borehole completed at 40.50m	40.50	-35.82	
41											
42											
43											
44											
45											
46											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
02/08/2022 17:00	40.50	29.00	5.97

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Borehole No. **BH103**

Sheet 1 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561242 N 175806	Hole Type CP+RC
Location: Northfleet		Level: 4.97mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/07/2022 End: 28/07/2022	Logged By AK

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.00 - 0.20					MADE GROUND: Greyish brown sandy slightly silty angular to sub-rounded fine to coarse GRAVEL of brick, ceramic, concrete and siliceous material.	(0.50)		
		B	0.20 - 0.50					0.20-0.50m: Gravel is fine to medium with rare coarse material.	0.50	4.47	
		B	0.50 - 1.20					MADE GROUND: Dark greyish brown sandy very clayey angular to sub-rounded fine to coarse GRAVEL of brick, concrete and siliceous material.	(0.80)		
1		B	1.20 - 2.00	S 7					1.30	3.67	
		D	1.20 - 1.65					Medium dense dark grey slightly gravelly very clayey SAND. Gravel is angular to sub-rounded fine to coarse of siliceous material. Sand is fine to coarse.	(0.70)		
		SPT									
2		B	2.00 - 3.00	S <1					2.00	2.97	
		H	2.00					Very soft dark grey slightly gravelly slightly sandy CLAY with occasional fragments of partially decomposed wood (<10mm). Gravel is sub-angular to sub-rounded fine to coarse of lignite.	(1.00)		
		SPT	2.00 - 2.45								
3		B	3.00 - 4.00					Soft brown CLAY with occasional pockets of fine to coarse sand (<3mm).	3.00	1.97	
		D	3.00 - 3.45								
		SPT									
4		B	4.00 - 5.00	20				4.00m: Dark grey.			
		H	4.00								
		UT100	4.00 - 4.45								
		D	4.45 - 4.55						(3.50)		
5		B	5.00 - 6.50								
		D	5.00 - 5.45								
		H	5.00								
		SPT	5.00 - 5.45								
6											
		B	6.50 - 8.00	39				Very soft dark grey CLAY with frequent partially decomposed wood fragments (<3mm).	6.50	-1.54	
		H	6.50								
		UT100	6.50 - 6.95					6.95m: No recovery in UT100 shoe.			
7											
8											

EQUIPMENT: Handheld hand digging tools. Dando 3000 cable percussion rig. Fraste Multi-drill PL(G) track mounted rig.
METHOD: Hand dug inspection pit: 0.00-1.20m. Cable percussion drilled using 200mm diameter clay cutter and bailer 1.20-25.00m. Dynamic sampled using a 113mm sample barrel: 25.00-27.50m and 30.50-33.50m. Waterflush rotary coring using a T6-116 coring barrel: 27.50-32.00m and 33.50-38.00m.
CASING: 200mm diam to 1.70m and 150mm to 25.00m with bentonite seals 1.30-2.00m and23.50-25.00m. PW casing to 33.50m.
GROUNDWATER: Groundwater encountered at 14.45m, settled at 13.50m following monitoring and 17.50m, settled at 12.80m following monitoring.
INSTALLATION: Bentonite pellet backfill: 24.00-38.00m. 50mm ID HDPE slotted pipe with washed gravel response zone: 17.00-24.00m. 50mm ID HDPE plain pipe with bentonite pellet seal: 0.20-17.00m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valve fitted.
REMARKS: Driller reports blowing sands and gravels: 22.80 blowing back to 20.30m, resulting in re-dills. Dynamic sampling to recover dropped core 30.50-32.00m.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
20/07/22	14.45	13.50	13.50
21/07/22	17.50		12.80

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
19/07/2022 17:00	8.00	8.00	
20/07/2022 08:00	8.00	8.00	5.10

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Borehole No. **BH103**

Sheet 2 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561242 N 175806	Hole Type CP+RC
Location: Northfleet		Level: 4.97mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/07/2022 End: 28/07/2022	Logged By AK

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B D SPT	8.00 - 9.50 8.00 - 8.45	S 2				Very soft dark grey CLAY with frequent partially decomposed wood fragments (<3mm). *(continued from previous sheet)*	(3.00)		
9											9
		B UT100	9.50 - 11.00 9.50 - 9.95					Soft dark brown plastic pseudo-fibrous PEAT.	9.50	-4.54	
10		D	9.95 - 10.05								10
11		B SPT	11.00 - 12.50 11.00 - 11.45	S 14				11.00m: Becoming very clayey.	(3.40)		11
12											12
	2	B UT100	12.50 - 14.00 12.50 - 12.95								
13	1	D	12.95 - 13.05					Soft dark grey silty CLAY.	12.90	-7.94	13
									(0.90)		
14		B SPT	14.00 - 15.50 14.00 - 14.45	S 8				Soft dark grey silty CLAY with frequent very closely spaced lenses of pseudo-fibrous peat.	13.80	-8.84	14
15									(3.10)		15
		B	15.50 - 17.00					15.50m: UT100 = no recovery.			
16											16
17		B SPT	17.00 - 17.80 17.00 - 17.45	S 8				Soft indistinctly thinly laminated dark grey mottled black CLAY with frequent shell fragments (<2mm) and frequent partially decomposed wood fragments (<6mm) and occasional pockets of calcareous silt (<10mm).	16.90 (0.60)	-11.94	17
	2	B	17.50 - 18.50					*(continued on next sheet)*	17.50	-12.54	

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
20/07/2022 17:00	16.05	15.20	
21/07/2022 08:00	15.50	15.20	

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Borehole No. **BH103**

Sheet 3 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561242 N 175806	Hole Type CP+RC
Location: Northfleet		Level: 4.97mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/07/2022 End: 28/07/2022	Logged By AK

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
18								Dark grey sandy angular to rounded fine to coarse GRAVEL of flint and siltstone. *(continued from previous sheet)*			
		B SPT	18.50 - 19.00 18.50 - 18.95	S 14				18.50m: Very sandy. 18.50m: Medium dense. 18.50m: Driller notes slow progress to rising/ blowing gravels inside casing.			
19		B	19.00 - 20.00								
20		B SPT	20.00 - 21.50 20.00 - 20.45	S 36				20.00m: Dense.			
									(6.30)		
21		B SPT C	21.50 - 23.00 21.50 - 21.95	C 11				21.50m: Becoming medium dense.			
22											
23		B	23.00 - 23.80					22.80m: Driller reports blowings sands and gravels back to 19.20m = slow drilling and re-drilling. 23.00m: Driller notes no SPT test due to blowing gravels inside casing.			
		B	23.80 - 25.00					Recovered as structureless CHALK composed of slightly silty sub-angular to sub-rounded fine to coarse GRAVEL. Clasts are weak low density white with occasional orange specks and orange staining. Frequent angular to sub-rounded fine to coarse flint gravel. Matrix is creamy orange. [Grade Dc]	23.80	-18.84	
24									(1.80)		
25		SPT	25.00 - 25.45	S 22				25.30m: 2No flint cobbles.			
								Structureless CHALK composed of sub-angular to sub-rounded fine to coarse GRAVEL. Clasts are weak low density off-white with occasional orange specks and staining. Frequent angular to sub-rounded fine to coarse flint gravel. Matrix creamy orange. [Grade Dc]	25.60	-20.64	
26		D	26.20					26.00m: 1No cobble of sub-angular chalk (<100mm).	(1.40)		
		SPT	26.50 - 26.95	S 23							
27								*(continued on next sheet)*	27.00	-22.04	
		D	27.20								

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
21/07/2022 17:00	21.50	21.50	6.00
22/07/2022 08:00	21.50	21.50	5.10
22/07/2022 17:00	23.00	21.50	
25/07/2022 07:45	23.00	24.00	4.20
25/07/2022 18:00	25.00	25.00	8.10
27/07/2022 08:00	25.00	25.00	9.84

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Borehole No. **BH103**

Sheet 4 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561242 N 175806	Hole Type CP+RC
Location: Northfleet		Level: 4.97mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/07/2022 End: 28/07/2022	Logged By AK

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
28		C SPT	27.50 - 29.00 27.50 - 27.95	S 41	C	65% 0% 0%		Very weak medium density white with occasional orange specks CHALK. Discontinuities are very closely to closely spaced randomly orientated intersecting open undulating with occasional infilled fractures of cream silt and comminuted chalk with orangish brown staining. [Grade C4]. *(continued from previous sheet)* 27.50m: Rinded flint cobbles.			
		D	28.50						(3.00)		
29		C	29.00 - 30.50		C	100% 0% 0%		29.00-30.00m: Frequent orangish brown staining.			
		D	29.70		C						
30		C SPT D	30.50 - 32.00 30.50 - 30.95 30.60	S 36	C	72% 0% 0%		Structureless CHALK composed of cream, slightly gravelly sandy SILT. Gravel is very weak low density white with occasional black specks and sub-angular. [Grade Dm] 30.50m: 1No boulder of sub-angular flint (<300mm).	30.00	-25.04	
31									(3.00)		
		D	31.80								
32		SPT	32.00 - 32.45	S 18				32.70-33.00m: Thin bed of angular to sub-angular gravel of flint (<30mm).			
33		D	33.30					Very weak medium density off white with occasional black specks CHALK. Discontinuities are very closely to closely spaced randomly orientated intersecting undulating rough, clean or infilled with cream silt and communited chalk with slight orangish brown staining and black speckling. [Grade C4].	33.00	-28.04	
		C SPT	33.50 - 35.00 33.50 - 33.95	S 37	C	67% 5% 0%					
34		D	34.00						(2.50)		
35		C SPT	35.00 - 36.50 35.00 - 35.32	S*88	C	85% 24% 8%					
		D	35.80					Weak medium density white occasionally speckled black unstained CHALK. Discontinuities are closely to medium spaced clean or infilled with cream comminuted chalk occasional orangish brown stained. Discontinuities are sub-horizontal, sub-vertical to vertical undulating rough. Occasional rinded flinted cobbles (<20mm). [Grade C4].	35.50	-30.54	
36		CS	36.17 - 36.37								
		C	36.50 - 38.00		C	100% 33% 23%			(2.50)		
37											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
27/07/2022 17:00	30.50	27.50	5.88
28/07/2022 08:00	30.50	27.50	5.58

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Borehole No. **BH103**

Sheet 5 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561242 N 175806	Hole Type CP+RC
Location: Northfleet		Level: 4.97mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/07/2022 End: 28/07/2022	Logged By AK

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
38		CS	37.10 - 37.30		C			Weak medium density white occasionally speckled black unstained CHALK. Discontinuities are closely to medium spaced clean or infilled with cream comminuted chalk occasional orangish brown stained. Discontinuities are sub-horizontal, sub-vertical to vertical undulating rough. Occasional rinded flinted cobbles (<20mm). [Grade C4]. *(continued from previous sheet)* 37.20m: becoming moderately strong chalk. Borehole completed at 38.00m	38.00	-33.04	
		D	37.60								
39											
40											
41											
42											
43											
44											
45											
46											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
28/07/2022 17:00	38.00	33.50	4.97

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Borehole No. **BH104**

Sheet 1 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561197 N	Hole Type CP+RC
Location: Northfleet		Level: 5.31mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 09/08/2022 End: 22/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.00 - 0.30					MADE GROUND: Grey sandy angular to rounded fine to coarse GRAVEL of flint, concrete, brick and slag with medium cobble content. Cobbles are sub-angular of concrete with rebar.	(0.70)		
		D	0.20					0.40m: 1No piece of sheet metal (40mm).	0.70	4.61	
		B	0.50					MADE GROUND: Dark grey sandy silty angular to rounded fine to coarse GRAVEL of flint, brick and concrete with medium cobble content. Cobbles are sub-angular of brick.	(0.50)		
1		B	1.00 - 1.20						1.20	4.11	1
		D	1.00					1.20m: Driller notes large concrete obstruction. No SPT came out.			
		B	1.20 - 2.00					MADE GROUND: Brown slightly clayey very sandy angular to sub-rounded fine to coarse GRAVEL of flint, brick and concrete.	(0.70)		
		D	1.50						1.90	3.41	
2		B	2.00 - 3.00	S 3				Soft grey locally mottled black silty CLAY with organic odour.			2
		SPT	2.00 - 2.45								
		D	3.00								
		H	3.00 - 3.45								
3		SPT	3.30 - 4.00								3
		B							(3.10)		
4		B	4.00 - 5.00					4.00-4.45m: UT100 no recovery.			4
		D	4.45 - 4.55								
		B	5.00 - 6.50	S 3							
5		SPT	5.00 - 5.45					Soft grey silty CLAY with rare organic material.	5.00	0.31	5
6		H	6.00	10							6
		B	6.50 - 8.00								
		UT100	6.50 - 6.95								
7		D	6.95 - 7.15								7
		D	7.00								
									(5.00)		
8											8

EQUIPMENT: Handheld hand digging tools. Dando 3000 cable percussion rig. Fraste Multi-drill PL(G) track mounted rig.
METHOD: Hand dug inspection pit: 0.00-1.20m. Cable percussion drilled using 200mm and 150mm diameter clay cutter and bailer 1.20-23.00m. Dynamic sampled using a 113mm sample barrel: 23.50-27.70m. Waterflush rotary coring using a T6-116 coring barrel: 27.70-38.50m.
CASING: 200mm diam to 12.00m and 150mm to 22.00m with bentonite seals GL-2.00m and 22.00-23.00m. PW casing to 31.00m.
GROUNDWATER: Groundwater encountered at 15.30m, settled at 9.20m following a 20 minute monitoring period.
INSTALLATION: Bentonite pellet backfill: 22.00-38.50m. 50mm ID HDPE slotted pipe with filter sand: 15.50-22.00m. 50mm ID HDPE plain pipe (0.20-15.50m) with bentonite pellet seal: 4.00-15.50m. 19mm ID PVC slotted pipe with washed gravel response zone 2.50-4.00m and 19mm ID plain pipe with bentonite pellet seal 0.20-2.50m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valves fitted.
REMARKS: CPT at 18.50-18.95m not carried out due to blowing sands. No sample retained 14.00-15.30m. Re-drilled due to blowing sands: 17.00-20.00m. CPT at 21.50-21.95m not taken due to casing dropping.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
11/08/22	15.30	14.00	9.20

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
10/08/2022 17:00	5.00	4.70	
11/08/2022 08:00	5.00	4.70	

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Borehole No. **BH104**

Sheet 2 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561197 N	Hole Type CP+RC
Location: Northfleet		Level: 5.31mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 09/08/2022 End: 22/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B H SPT	8.00 - 9.50 8.00 8.00 - 8.45					Soft grey silty CLAY with rare organic material. *(continued from previous sheet)* 8.00-10.00m: Dark grey.			
9	1										9
		UT100	9.50 - 9.95								
10		B	10.00 - 11.00					Brown pseudo-fibrous PEAT.	10.00	-4.69	10
		D	10.50						(1.00)		
11		B SPT	11.00 - 12.50 11.00 - 11.45	S 11				Soft grey and dark grey silty CLAY with frequent organic material.	11.00	-5.69	11
12		D H	12.00	8							12
		B UT100	12.50 - 14.00 12.50 - 12.95					12.50-15.50m: Frequent pockets of peat.			
13		D	12.95 - 13.05						(4.30)		13
14		SPT	14.00 - 14.45	S 4							14
15	1										15
		B	15.30 - 15.50					Very dense grey sandy angular to rounded fine to coarse GRAVEL of flint and siliceous material.	15.30	-9.99	
		B SPT C	15.50 - 17.00 15.50 - 15.88	C*64							
16		D	16.00								16
17		B SPT C	17.00 - 18.50 17.00 - 17.45	C 15				17.00-18.50m: Very sandy. Low cobble content of sub-angular flint. Driller notes blowing sands.			17

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
11/08/2022 17:00	15.30	14.00	9.60
15/08/2022 08:00	13.60	14.00	5.80

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Borehole No. **BH104**

Sheet 3 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561197 N	Hole Type CP+RC
Location: Northfleet		Level: 5.31mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 09/08/2022 End: 22/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
18		D	18.00					Very dense grey sandy angular to rounded fine to coarse GRAVEL of flint and siliceous material. *(continued from previous sheet)*			
		B	18.50 - 20.00					18.50-22.00m: Brownish grey. 18.50m: Driller notes unable to carry out SPTc due to blowing sands.	(6.70)		
19											
20		B SPT C	20.00 - 21.50 20.00 - 20.45	C 16				20.00-21.50m: Very sandy.			
21		D	21.00								
		B	21.50 - 22.00					21.50-22.00m: Low cobble content of angular flint.			
22		B	22.00 - 23.00					Structureless CHALK composed of slightly sandy angular to sub-rounded fine to coarse GRAVEL. Clasts are weak low density with frequent angular to rounded fine to coarse gravel of flint. Matrix is off-white. [Grade Dc]	22.00	-16.69	
		D	22.50						(1.00)		
23								Structureless CHALK composed of sandy silty angular to sub-angular fine to coarse GRAVEL. Clasts are weak low to medium density with rare black specks. Matrix is off-white [GRADE DC].	23.00	-17.69	
		SPT	23.50 - 23.95	S 8							
24		D	24.00					24.50-24.70m: Frequent orangish brown staining.			
25		SPT	25.00 - 25.45	S 20							
26		D	26.00								
		SPT	26.50 - 26.95	S 18					(7.00)		
27											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
15/08/2022 17:00	19.00	17.00	8.00
16/08/2022 08:00	18.80	17.00	5.00
16/08/2022 17:00	20.00	20.00	7.50
17/08/2022 08:00	20.00	20.00	6.00
17/08/2022 17:00	23.00	22.00	
18/08/2022 08:00	23.00	23.00	7.31

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Borehole No. **BH104**

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561197 N	Hole Type CP+RC
Location: Northfleet		Level: 5.31mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 09/08/2022 End: 22/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
28		C SPT	27.70 - 29.00 27.70 - 27.78	S*231	C	43% 0% 0%		Structureless CHALK composed of sandy silty angular to sub-angular fine to coarse GRAVEL. Clasts are weak low to medium density with rare black specks. Matrix is off-white [GRADE DC]. *(continued from previous sheet)* 27.70-30.00m: Large flint cobbles. Limited recovery. Fines washing away.			
29		C D	29.00 - 30.00 29.50		C	33% 0% 0%					
30		C SPT C	30.00 - 31.00 30.00 - 30.35	C*75	C	80% 0% 0%		Structureless CHALK composed of sandy silty angular to sub-angular fine to coarse GRAVEL. Clasts are weak low to medium density with rare black specks. Matrix is off-white [GRADE DC].	30.00 (1.00)	-24.69	
31		D C	30.80 31.00 - 32.50		C	80% 43% 38%		Very weak low to medium density off white CHALK. Discontinuities are closely to very closely spaced sub-horizontal to sub-vertical planar rough infill with sandy silty angular to to sub-angular fine gravel of flint and chalk. [GRADE C4] 31.00-34.00m: Frequent orangish brown staining.	31.00	-25.69	
32		D	32.00								
33		C D	32.50 - 34.00 33.00		C	80% 50% 50%			(3.00)		
34		CS C	33.80 - 34.00 34.00 - 35.50			86% 44% 40%		Weak low to medium density off white CHALK. Discontinuities are very closely to medium spaced sub-horizontal planar rough with infill of sandy silty angular to sub-angular fine to coarse gravel of flint and chalk. [GRADE C2] 34.00m: Frequent orangish brown staining.	34.00	-28.69	
35		D	34.50		C						
36		C	35.50 - 37.00		C	86% 54% 48%			(4.50)		
37		D CS	36.50 36.55 - 36.70		C						

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
18/08/2022 17:00	27.70	27.70	0.00
19/08/2022 06:15	27.70	27.70	4.08

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Borehole No. **BH104**

Sheet 5 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561197 N	Hole Type CP+RC
Location: Northfleet		Level: 5.31mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 09/08/2022 End: 22/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
38		C	37.00 - 38.50		C	100% 66% 25%		Weak low to medium density off white CHALK. Discontinuities are very closely to medium spaced sub-horizontal planar rough with infill of sandy silty angular to sub-angular fine to coarse gravel of flint and chalk. [GRADE C2] *(continued from previous sheet)*			
		D	38.00								
								Borehole completed at 38.50m	38.50	-33.19	
39											
40											
41											
42											
43											
44											
45											
46											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
19/08/2022 12:45	38.50	31.00	6.04

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Borehole No. **BH105**

Sheet 1 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561253 N 175747	Hole Type CP+RC
Location: Northfleet		Level: 6.07mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 04/08/2022 End: 11/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.00 - 0.20					MADE GROUND: Brownish grey slightly silty sandy angular to sub-angular fine to coarse GRAVEL of igneous material.	0.20	5.87	
		D	0.10						0.30	5.77	
		D	0.15					MADE GROUND: Dark grey sandy angular to rounded fine to coarse GRAVEL of igneous material, flint and concrete.	0.50	5.57	
		B	0.20 - 0.30						(0.70)		
		B	0.30 - 0.50								
		D	0.40								
1		B	0.50 - 0.90					MADE GROUND: Firm dark grey slightly gravelly sandy CLAY. Gravel is angular to rounded fine to coarse of slag, flint and rare plastic mesh.	1.20	4.87	1
		D	0.80								
		B	0.90 - 1.20	S 25				MADE GROUND: Grey gravelly SAND. Gravel is angular to rounded fine to coarse of flint, concrete and brick. Sand is fine to coarse. 0.90-1.20m: Frequent cobbles of sub-angular brick.	1.50	4.57	
		B	1.20 - 1.50								
		SPT	1.20 - 1.65								
		D	1.45								
2		B	2.00 - 3.00	S 11				MADE GROUND: Dark grey slightly clayey gravelly SAND. Gravel is angular to rounded fine to coarse of flint and brick. Sand is fine to coarse.			2
		SPT	2.00 - 2.45								
		D	2.50					Medium dense dark grey gravelly silty SAND. Gravel is sub-angular to rounded fine to coarse of flint. Sand is fine to coarse.	(2.50)		
3		B	3.00 - 4.00	S 2				3.00m: Very loose. SPT = no recovery.			3
		SPT	3.00 - 3.45								
4		B	4.00 - 5.00	S<1				Very soft dark greyish brown slightly sandy silty CLAY. Gravel is angular to sub-angular fine to coarse of flint.	4.00	2.07	4
		SPT	4.00 - 4.45								
		D	4.50						(1.00)		
5		B	5.00 - 6.50	S 4				Very soft dark grey slightly sandy silty CLAY.	5.00	1.07	5
		SPT	5.00 - 5.45								
									(1.50)		
6		D	6.00	10							6
		H									
	1	B	6.50 - 8.00	S 4				Soft dark grey and dark brown silty CLAY with frequent lenses and pockets of partially decomposed organic material (<50mm).	6.50	-0.43	
		SPT	6.50 - 6.95								
7		D	7.00	17							7
		H									
8											8

EQUIPMENT: Handheld hand digging tools. Dando 3000 cable percussion rig. Fraste Multi-drill PL(G) track mounted rig.
METHOD: Hand dug inspection pit: 0.00-1.20m. Cable percussion drilled using 200mm diameter clay cutter and bailer 1.20-24.50m. Dynamic sampled using a 113mm sample barrel: 25.00-29.00m. Waterflush rotary coring using a T6-116 coring barrel: 29.00-38.00m.
CASING: 200mm diam to 12.70m and 150mm to 21.00m. PW casing to 29.00m. Bentonite seals 0.00-1.50m and 23.50-24.50m.
GROUNDWATER: Damp at 4.00m, sealed thereafter. Groundwater encountered at 22.00m, settled at 6.60m following a 20 minute monitoring period.
INSTALLATION: Bentonite backfill: 23.50-38.00m. 50mm ID HDPE slotted pipe with filter sand response zone: 24.60-23.50m. 50mm ID HDPE plain pipe with bentonite pellet seal: 0.20-21.60m. 19mm ID HDPE slotted pipe with filter sand response zone: 2.00-4.00m. 19mm ID HDPE plain pipe with bentonite pellet seal: 0.20-2.00m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valve fitted.
REMARKS: Chisseling 22.30-23.40m. Blowing sands rising in casing 22.00-11.40m.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
09/08/22	22.00	22.00	6.60

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
04/08/2022 17:00	1.50		
05/08/2022 08:00	1.50		

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ROTARY BOREHOLE LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Borehole No. **BH105**

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561253 N 175747	Hole Type CP+RC
Location: Northfleet		Level: 6.07mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 04/08/2022 End: 11/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B UT100 D	8.00 - 9.50 8.00 - 8.45 8.45 - 8.55					Soft dark grey and dark brown silty CLAY with frequent lenses and pockets of partially decomposed organic material (<50mm). *(continued from previous sheet)*	(3.00)		
9											9
		B SPT D	9.50 - 11.00 9.50 - 9.95 10.00	S<1				Very soft dark grey clayey SILT with rare organic material (<20mm). 9.50m: SPT sinking under own weight.	9.50	-3.43	
10											10
									(2.50)		
11		B UT100 D	11.00 - 12.00 11.00 - 11.45 11.45 - 11.55					11.00-12.00m: Frequent organic materials and pockets of peat.			11
12		B D H	12.00 - 12.50 12.20	 5				Very soft dark grey and brown silty CLAY with frequent thinly interbedded pseudo-fibrous peat.	12.00 (0.50)	-5.93	12
		B SPT D H	12.50 - 14.00 12.50 - 12.95 13.00	S 1 5				Very soft grey dark grey silty CLAY with occasional pockets of organic material and rare lenses of pseudo-fibrous peat (<80mm).	12.50	-6.43	
13											13
14		B UT100 D	14.00 - 15.50 14.00 - 14.45 14.45 - 14.55								14
15											15
		B SPT	15.50 - 17.00 15.50 - 15.95	S 7				15.50-17.00m: With frequent organic material and occasional lenses of pseudo-fibrous peat (<60mm). 15.50m: Becoming firm.			
16											16
17		B UT100 D	17.00 - 18.50 17.00 - 17.45 17.45 - 17.55					17.00-21.60m: With rare organic material and lenses of pseudo-fibrous peat (<50mm).	(9.10)		17

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
05/08/2022 17:00	12.50	12.50	
08/08/2022 08:00	12.50	12.50	

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Borehole No. **BH105**

Sheet 3 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561253 N 175747	Hole Type CP+RC
Location: Northfleet		Level: 6.07mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 04/08/2022 End: 11/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
18		H	18.00	4				Very soft grey dark grey silty CLAY with occasional pockets of organic material and rare lenses of pseudo-fibrous peat (<80mm). *(continued from previous sheet)*			
		B	18.50 - 20.00	S 4							
		SPT	18.50 - 18.95								
19											
20		B	20.00 - 21.50	5							
		D	20.00								
		H	20.00 - 20.45								
		UT100	20.45 - 20.55								
		D									
21											
		B	21.50 - 23.00	S 13				21.50m: SPT = no recovery.			
		SPT	21.50 - 21.95					Medium dense grey and brown sandy angular to rounded fine to coarse GRAVEL of flint and siliceous material.	21.60	-15.53	
22	1	D	22.00								
									(1.90)		
23		B	23.00 - 23.50					23.00m: SPT C not taken due to casing dropped beyond test depth.			
		B	23.50 - 24.50						23.50	-17.43	
24		D	24.00					Structureless CHALK composed of cream slightly silty sandy angular to rounded fine to coarse GRAVEL. Clasts are weak low density with occasional orange specks and frequent angular to rounded fine to coarse flint. Matrix is cream. [Grade Dc]			
25		SPT	25.00 - 25.45	S 14							
26											
		SPT	26.50 - 26.95	S 10					(6.21)		
27											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
08/08/2022 17:00	21.50	21.50	
09/08/2022 08:00	21.50	23.00	21.50
09/08/2022 17:00	24.50	24.50	
10/08/2022 08:00	25.00	25.00	5.68

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Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Borehole No. **BH105**

Sheet 4 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561253 N 175747	Hole Type CP+RC
Location: Northfleet		Level: 6.07mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 04/08/2022 End: 11/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
28		SPT	28.00 - 28.45	S 19				Structureless CHALK composed of cream slightly silty sandy angular to rounded fine to coarse GRAVEL. Clasts are weak low density with occasional orange specks and frequent angular to rounded fine to coarse flint. Matrix is cream. [Grade Dc] *(continued from previous sheet)*			
29		C SPT	29.00 - 30.50 29.00 - 29.45	S 30	C	75% 5% 0%					
30		D	30.00					Very weak low density off white CHALK. Discontinuities are randomly orientated extremely closely to very closely spaced intersecting undulating rough infilled with cream silt and communuted chalk with orangish brown staining. [Grade C5] 30.03-30.10m: Frequent orangish brown staining.	29.71 (1.92)	-23.64	
		C	30.50 - 32.00			90% 5% 0%					
31		D	30.90		C			31.08-31.13m: Frequent orangish brown staining.	31.63	-25.56	
32		D C	31.90 32.00 - 33.50			100% 19% 9%		Structureless CHALK composing of slightly silty sandy angular to sub-angular fine to coarse GRAVEL. Clasts are weak low density. Matrix is off white with occasional brown staining. [Grade Dc]	32.00	-25.93	
		CS	32.66 - 32.82		C			Weak medium density off white CHALK. Discontinuities are randomly orientated extremely closely to closely spaced intersecting undulating rough and planar rough infilled with off-white silt and comunuted chalk with rare orangish brown staining. [Grade C5]			
33		D	33.00						(2.55)		
		C	33.50 - 35.00			100% 47% 27%					
34		D	33.80					33.75-33.80m: 1No flint cobble recovered as gravel. 33.98-34.06m: Non-intact.			
		CS	34.57 - 34.78		C			34.46m: 1No flint cobble recovered as gravel.	34.55	-28.48	
35		C D CS	35.00 - 36.50 35.10 35.16 - 35.34			100% 27% 21%		Weak medium density off-white CHALK. Discontinuities are sub-horizontal closely to medium spaced undulating and planar rough infill with silt and communuted chalk with occasional orangish brown staining. [Grade C3]	(0.93)		
36					C			Weak medium density off white CHALK. Discontinuities are randomly orientated extremely closely to closely spaced intersecting undulating and planar rough infill with silt and communuted chalk. Matrix is cream with occasional orangish brown staining and rare flint gravels. [Grade C4] 35.48-35.72m: Frequent flint cobbles recovered as gravel.	35.48 (1.30)	-29.41	
		C	36.50 - 38.00			91% 64% 52%		36.64-36.78m: 1No flint cobble recovered as gravel.	36.78	-30.71	
37					C			*(continued on next sheet)*			

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
10/08/2022 17:00	28.00	28.00	6.05
11/08/2022 08:00	28.00	28.00	6.22

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Borehole No. **BH105**

Sheet 5 of 5

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561253 N 175747	Hole Type CP+RC
Location: Northfleet		Level: 6.07mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 04/08/2022 End: 11/08/2022	Logged By TH

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		D	37.00					Weak medium density off-white CHALK. Discontinuities are horizontal to sub-vertical closely to medium spaced planar to undulating rough infill with silt and communuted chalk. Matrix is cream with rare orangish brown staining and orangish brown specking. [Grade C3] *(continued from previous sheet)*	(1.22)		
		CS	37.75 - 38.00		C			37.18m: 1No angular flint cobble.	38.00	-31.93	
								Borehole completed at 38.00m			

38 39 40 41 42 43 44 45 46

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
11/08/2022 17:00	38.00	29.00	6.79

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Borehole No. **BH106**

Sheet 1 of 4

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561258 N 175708	Hole Type CP+RC
Location: Northfleet		Level: 4.92mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/08/2022 End: 25/08/2022	Logged By TH/ AK

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		C	0.00 - 0.80		C			MADE GROUND: Light grey sandy matrix supported CONCRETE (<1% voids) (<2mm). WIth rebar (<20mm).	0.17	4.75	
								MADE GROUND: Grey sandy matrix supported CONCRETE (<2% voids) (5mm). WIth rebar (<20mm). 0.47m: 1No horizontal rough discontinuity.	0.50	4.42	
1		B	0.80 - 1.20					MADE GROUND: Light grey sandy matrix supported CONCRETE (<1% voids) (2mm). 0.56m: 1No sub-horizontal rough discontinuity. 0.63m: 1No horizontal rough discontinuity.	0.80	4.12	
		D	1.00						(0.40)		
		B	1.20 - 1.50						1.20	3.72	
	1	D	1.30					MADE GROUND: Grey sandy silty angular to rounded fine to coarse GRAVEL of flint and concrete.	1.50	3.42	
		B	1.70 - 2.00					MADE GROUND: Brown sandy clayey angular to sub-angular fine to coarse GRAVEL of brick, chalk, concrete, siliceous material. Sand is ash.			
2	1	D	1.70								
		B	2.00 - 3.00	C 2				MADE GROUND: Very soft black slightly gravelly silty CLAY. Gravel is angular to sub-angular fine to coarse of concrete, brick, flint and chalk with a weak organic hydrocarbon odour. 1.50m: 1m long fibrous wire.			
		SPT C	2.00 - 2.45								
		D	2.30								
3		B	3.00 - 4.00	C 4					(3.50)		
		SPT C	3.00 - 3.45								
		D	3.30								
4		B	4.00 - 5.00	S<1							
		D	4.00 - 4.45								
		SPT									
5		B	5.00 - 6.00	S<1				Very soft dark grey mottled black silty CLAY. 5.00-6.00m: With pockets of peat (<20mm)	5.00	-0.08	
		D	5.00 - 5.45								
		SPT									
6		B	6.00 - 7.00								
		D	6.50 - 9.95	S<1					(3.00)		
		SPT	6.50 - 6.95								
7		B	7.00 - 8.00								
		B	7.05 - 8.00								
8	2										

EQUIPMENT: Handheld hand digging tools. Dando 3000 cable percussion rig. Fraste Multi-drill PL(G) track mounted rig.
METHOD: Concrete core (30mm): 0.00-0.50m. Hand dug inspection pit: 0.50-1.20m. Cable percussion drilled using a 200mm diameter clay cutter and bailer 1.20-22.50m. Dynamic sampled using a 113mm sample barrel: 22.50-25.15m and 26.00-29.00m. Waterflush rotary coring using a T6-116 coring barrel: 24.70-27.50m and 29.00-33.50m.
CASING: 200mm diam to 21.00m. PW casing to 29.00m.
GROUNDWATER: Groundwater encountered at 2.00m, settled to 1.60m following monitoring and 15.00m, settled at 7.80m following monitoring.
BACKFILL: Borehole backfilled with bentonite pellets 1.20-33.50m, concrete arisings 0.40-1.20m and concrete 0.00-0.40m. Ground surface reinstated.
REMARKS: Unable to carry out SPT testing from 15.00m due to blowing sands.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
19/08/22	2.00		1.60
23/08/22	15.00	10.50	7.80

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
19/08/2022 17:00	4.00		2.50
22/08/2022 08:00	4.00		1.50

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ROTARY BOREHOLE LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Borehole No. **BH106**

Sheet 2 of 4

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561258 N 175708	Hole Type CP+RC
Location: Northfleet		Level: 4.92mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/08/2022 End: 25/08/2022	Logged By TH/ AK

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
		B D SPT	8.00 - 9.00 8.00 - 8.45	S<1				Soft brown pseudo-fibrous PEAT with organic odour.	8.00	-3.08	
9		B	9.00 - 10.50								9
		D SPT	9.50 - 9.95	S<1							
10									(4.50)		10
		B	10.50 - 11.00								
11		B UT100	11.00 - 12.50 11.00 - 11.45								11
		D	11.45 - 11.55								
12											12
		B D SPT	12.50 - 14.00 12.50 - 12.95	S 4				Soft dark grey silty CLAY with frequent pockets of pseudo-fibrous peat.	12.50	-7.58	
13											13
									(2.50)		
14		D UT100	14.00 - 15.00 14.00 - 14.45								14
		D	14.45 - 14.55								
15	▼2	B	15.00 - 16.00					Grey sandy silty angular to sub-rounded fine to coarse GRAVEL of flint. 15.50m: Driller notes blowing sands. Unable to carry out SPT testing.	15.00	-10.08	15
16		B	16.00 - 17.00								16
17		B	17.00 - 18.00								17

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
22/08/2022 17:00	12.95	10.50	
23/08/2022 08:00	12.50	10.50	

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ROTARY BOREHOLE LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Borehole No. **BH106**

Sheet 3 of 4

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561258 N 175708	Hole Type CP+RC
Location: Northfleet		Level: 4.92mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/08/2022 End: 25/08/2022	Logged By TH/ AK

(m)	Water Levels	Core Run, Samples & Testing: No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
18		B	18.00 - 19.00					Grey sandy silty angular to sub-rounded fine to coarse GRAVEL of flint. *(continued from previous sheet)*	(5.50)		
19		B	19.00 - 20.00					19.00-20.00m: Becoming very sandy gravel.			
20		B SPT C	20.50 - 21.50 20.50 - 20.95	C 17				Structurless CHALK composed of slightly sandy silty angular to sub-angular fine to coarse GRAVEL. Clasts are weak low density white with rare black speckling. Matrix is off-white. [GRADE Dc].	20.50	-15.58	
21		B D	21.50 - 22.50 21.50								
22		SPT	22.50 - 22.95	S 6				22.50-24.70m: Flint absent.			
23		D	23.00								
24		SPT D	23.50 - 23.95 24.00	S 13							
25		C SPT C	24.70 - 26.00 24.70 - 25.15	C 27	C	54% 0% 0%		24.70-26.00m: Limited recovery due to flints. 25.30m: Angular flint cobble.			
		D	25.50					25.50m: Frequent orangish brown staining.	(10.37)		
26		C	26.00 - 27.50		C	60% 0% 0%		26.00-27.50m: Limited recovery due to flints.			
27		D	27.00								

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
23/08/2022 17:00	22.50	22.50	
24/08/2022 08:00	22.50	22.50	
24/08/2022 17:00	26.00	24.70	5.22
25/08/2022 08:00	26.00	24.70	5.25

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ROTARY BOREHOLE LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Borehole No. **BH106**

Sheet 4 of 4

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561258 N 175708	Hole Type CP+RC
Location: Northfleet		Level: 4.92mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 19/08/2022 End: 25/08/2022	Logged By TH/ AK

(m)	Water Levels	Core Run, Samples & Testing No/Type	Depth (m)	Result	Core Run & Sample	TCR SCR RQD	Install	Description	Depth (m)	Level (mAD)	Legend
28		SPT C	27.50 - 27.95	C 40	C	100% 0% 0%		Structurless CHALK composed of slightly sandy silty angular to sub-angular fine to coarse GRAVEL. Clasts are weak low density white with rare black speckling. Matrix is off-white. [GRADE Dc]. *(continued from previous sheet)* 27.50m: Angular flint cobble (<90mm).			
		D	28.00								
29		C	29.00 - 30.50	C*58	C	75% 6% 0%					
		SPT C	29.00 - 29.41								
30		C	30.50 - 32.00		C	93% 0% 0%		30.40m: Orangish brown staining.			
31								Very weak low density off-white CHALK with black and orangish brown speckling. Discontinuities are very closely (20/40/60) randomly orientated intersecting undulating rough infilled (3/3/4) with off-white silt, sand and communuted chalk with frequent gravel of flint. [GRADE C4]. 31.70-32.53m: Frequent orangish brown staining.	30.87	-25.95	
32		C	32.00 - 33.50		C	84% 19% 10%			(2.63)		
33		CS	33.30 - 33.50	C*63				Borehole completed at 33.50m	33.50	-28.58	
34											
35											
36											
37											

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
25/08/2022 17:00	33.50	29.00	4.82

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WINDOWLESS SAMPLE LOG

Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: Info@CCGround.co.uk

Borehole No. **WS101**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561181 N 175828	Hole Type WLS
Location: Northfleet		Level: 4.79mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 14/07/2022 End: 10/08/2022	Logged By AK/AW

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Sample	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.00 - 0.20				MADE GROUND: Grass over friable light brown slightly gravelly slightly sandy CLAY with frequent roots and rootlets (<10mm). Gravel is angular to sub-rounded fine to coarse of brick and siliceous material.	0.20	4.59	
		B	0.20 - 0.40					0.40	4.39	
		B	0.40 - 0.60				MADE GROUND: Light brown very gravelly slightly clayey SAND with occasional roots and rootlets (<5mm). Gravel is angular to sub-rounded fine to coarse of siliceous material. Sand is fine to coarse.	0.70	4.09	
1		B	0.80 - 1.10					(0.50)		1
		SPT	1.20 - 1.65	S 8			MADE GROUND: White very sandy angular to rounded fine to coarse GRAVEL of siliceous material.	1.20	3.59	
							Black locally dark grey slightly gravelly SAND. Gravel is angular to sub-rounded fine to coarse of lignite and siliceous material. Sand is fine to coarse.	(1.00)		
		D	1.80							
2		SPT	2.00 - 2.45	S<1			Loose dark grey silty SAND with frequent organic material (<30mm). Sand is fine to coarse. 2.00m: Very loose.	2.20	2.59	2
		D	2.50				Very soft dark grey mottled black silty CLAY with frequent pockets of partially decomposed organic material (<30mm). 2.20-2.70m: Slightly sandy.			
3		SPT	3.00 - 3.45	S<1			3.00m: Becoming grey mottled black.			3
		D	3.50							
4		SPT	4.00 - 4.45	S<1				(3.80)		4
		D	4.50							
5		SPT	5.00 - 5.45	S<1			4.90-6.00m: Closely thinly interbedded with brown psedo-fiberous peat.			5
		D	5.50							
6		SPT	6.00 - 6.45	S<1			Borehole completed at 6.00m	6.00	-1.21	6
7										7
8										8

EQUIPMENT: Hand digging tools. Terrier 2002 track mounted rig.
METHOD: Hand dug inspection pit: 0.00-1.20m on 14/07/2022 and backfilled. Continuous disturbed sampling using 101mm and 65mm sample barrels: 1.20-6.00m.
CASING: 113mm to 5.00m.
GROUNDWATER: Encountered at 1.20m.
INSTALLATION: Bentonite pellet backfill: 2.00-6.00m. 50mm ID HDPE slotted pipe: 1.00-2.00m. 50mm ID HDPE plain pipe: 0.20-1.00m. Bentonite pellet seal 0.70-1.00m. 19mm ID HDPE slotted pipe with washed gravel response zone: 0.30-0.70m. 19mm ID HDPE plain pipe with bentonite pellet seal: 0.20-0.30m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valve fitted.
REMARKS: Dynamic probe reference DP101 undertaken adjacent to window sample.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
10/08/2022 17:00	6.00	5.00	

CC Ground Investigations Ltd

WINDOWLESS SAMPLE LOG

Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: Info@CCGround.co.uk

Borehole No. **WS102**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561197 N 175844	Hole Type WLS
Location: Northfleet		Level: 4.83mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 14/07/2022 End: 10/08/2022	Logged By AK/SB

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Sample	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.15 - 0.30				MADE GROUND: Grass over friable light brown slightly gravelly slightly sandy CLAY with frequent roots and rootlets (<10mm). Gravel is angular to sub-rounded fine to coarse of brick and siliceous material.	0.15	4.68	
		B	0.40 - 0.60					0.30	4.53	
							MADE GROUND: Light brown very gravelly clayey SAND with occasional roots and rootlets (<5mm). Gravel is angular to sub-rounded fine to coarse of siliceous material. Sand is fine to coarse.	(0.60)		
1		B	0.90 - 1.20					0.90	3.93	1
		SPT	1.20 - 1.65	S 4			MADE GROUND: White very sandy angular to rounded fine to coarse GRAVEL of siliceous material.	1.20	3.63	
							Black locally dark grey slightly gravelly SAND. Gravel is angular to rounded fine to coarse of lignite and siliceous material. Sand is fine to coarse.	(1.20)		
2		D	1.80							2
		SPT	2.00 - 2.45	S<1			Very loose dark grey black silty SAND with frequent pockets of organic material. Sand is fine to coarse.			
		D	2.50				Very soft dark grey mottled black silty CLAY with frequent lenses of partially decomposed organic material (<50mm). 2.40-2.80m: Slightly sandy.	2.40	2.43	
3		SPT	3.00 - 3.45	S<1						3
		D	3.50							
		H	3.80	53						
4		SPT	4.00 - 4.45	S<1				(3.60)		4
		D	4.50							
5		SPT	5.00 - 5.45	S<1			5.00-6.00m: Becoming grey mottled brown.			5
		D	5.50				5.50m: With rare wood fragments (<2mm).			
6		SPT	6.00 - 6.45	S<1			Borehole completed at 6.00m	6.00	-1.17	6
7										7
8										8

EQUIPMENT: Hand digging tools. Terrier 2002 track mounted rig.
METHOD: Hand dug inspection pit: 0.00-1.20m on 14/07/2022 and backfilled. Continuous disturbed sampling using a 101mm sample barrel: 1.20-6.00m.
CASING: 113mm to 5.00m.
GROUNDWATER: Groundwater encountered at 2.00m, settled at 1.77m following 20 minute monitoring period.
INSTALLATION: Bentonite pellet backfill: 2.00-6.00m. 50mm ID HDPE slotted pipe with washed gravel response zone: 1.20-2.00m. 50mm ID HDPE plain pipe: 0.20-1.20m. Bentonite pellet seal 0.90-1.20m. 19mm ID HDPE slotted pipe with washed gravel response zone: 0.30-0.90m. 19mm ID HDPE plain pipe with bentonite pellet seal: 0.00-0.30m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valve fitted.
REMARKS: Dynamic probe reference DP102 undertaken adjacent to window sample.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
10/08/22	2.00	2.00	1.77

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
10/08/2022 17:00	6.00	6.00	

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WINDOWLESS SAMPLE LOG

Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: Info@CCGround.co.uk

Borehole No. **WS103**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561231 N 561231	Hole Type WLS
Location: Northfleet		Level: 5.78mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 13/07/2022 End: 14/07/2022	Logged By SB/ AK

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Sample	Install	Description	Depth (m)	Level (mAD)	Legend
							MADE GROUND: Brown gravelly clayey SAND. Gravel is sub-angular to sub-rounded fine to coarse of brick, concrete, flint, limestone and siliceous material. Sand is fine to coarse.	(0.70)		
		B	0.50					0.70	5.08	
1		B	1.00 - 1.80	S 38			MADE GROUND: Greyish brown very gravelly clayey SAND. Gravel is sub-angular to sub-rounded fine to coarse of brick, concrete, flint, limestone and siliceous material. Sand is fine to coarse.	(0.70)		1
		SPT	1.00 - 1.45					1.40	4.38	
							MADE GROUND: Yellowish greyish brown locally black very sandy sub-angular to sub-rounded fine to coarse GRAVEL of brick, concrete and siliceous material.	(0.40)		
		D	1.80 - 2.00					1.80	3.98	
2		B	2.00 - 2.65	S 1			Yellowis brown mottled orange silty SAND. Sand is fine to coarse.	1.95	3.83	2
		SPT	2.00 - 2.45				Soft locally firm sandy silty CLAY with occassional orange staining.	2.30	3.48	
							Very soft dark greyish brown locally black sandy CLAY with frequent fragments of partially decomposed organic material (<3mm). 2.65-2.80m: Light brown sand.			
3		B	3.00 - 4.00	S 2						3
		SPT	3.00 - 3.45					(2.00)		
4		SPT	4.00 - 4.45	S 1						4
		D	4.30 - 4.75				Very loose dark grey locally black clayey SAND with frequent organic material (<3mm). Sand is fine to coarse.	4.30	1.48	
								(0.45)		
							Soft dark grey locally black silty CLAY with frequent partially decomposed organic material (<3mm) and rare lignite gravel.	4.75	1.03	
5		B	5.00 - 6.00	S<1						5
		SPT	5.00 - 5.45					(1.25)		
	▼1									
6		SPT	6.00 - 6.45	S<1			Borehole completed at 6.00m	6.00	-0.22	6
7										7
8										8

EQUIPMENT: Hand digging tools. Terrier 2002 track mounted rig.
METHOD: Hand dug inspection pit: 0.00-0.75m on 13/07/2022 and backfilled. Continuous disturbed sampling using a 101mm sample barrel: 0.75-6.00m.
CASING: 113mm to 6.00m.
GROUNDWATER: Encountered in run 5.00-6.00m at 5.68m.
INSTALLATION: Bentonite pellet backfill: 1.50-6.00m. 50mm ID HDPE slotted pipe with washed gravel response zone: 0.50-1.50m. 50mm ID HDPE plain pipe with bentonite pellet seal: 0.10-0.50m. Flush 150mm steel cover set in concrete: 0.00-0.10m. Gas valve fitted.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)
14/07/22	5.68	5.00	

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
14/07/2022 15:45	6.00	6.00	5.74

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WINDOWLESS SAMPLE LOG

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Borehole No. **WS104**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561228 N 175735	Hole Type WLS
Location: Northfleet		Level: 5.66mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 13/07/2022 End: 11/08/2022	Logged By SB

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Sample	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.50				MADE GROUND: Greyish brown slightly sandy silty slightly clayey angular to sub-angular fine to coarse GRAVEL of brick, concrete, siliceous material, clinker, ash and limestone with occasional rootlets (<1mm).	(0.90)		
							MADE GROUND: Firm brown slightly sandy gravelly silty CLAY. Gravel is angular to sub-rounded fine to coarse of siliceous material, brick and clinker.	0.90	4.76	
							MADE GROUND: Brown very gravelly silty SAND. Gravel is angular to sub-angular fine to coarse of concrete, flint and brick. Sand is fine to coarse.	1.20	4.46	
		D	1.80				MADE GROUND: Brown silty SAND with fragments of ash and charcoal (<2mm). Sand is fine to coarse. 1.50-1.55m: Sandy clay.	1.50	4.16	
		SPT	2.00 - 2.45	S<1			Very loose dark grey black very silty SAND with frequent pockets of organic material (<30mm). Sand is fine to coarse.	(0.50)		
		D	2.50				Very soft dark grey black silty CLAY with frequent pockets of partially decomposed organic material (<50mm). 2.60-2.70m: Sandy silty clay.	2.00	3.66	
		SPT	3.00 - 3.45	S 2				(0.60)		
		D	3.50					2.60	3.06	
		D	3.90				Dark grey black silty SAND with frequent organic matter. Sand is fine to coarse.	(1.30)		
							Borehole completed at 4.00m	3.90 4.00	1.76 1.66	

EQUIPMENT: Hand digging tools. Terrier 2002 track mounted rig.
METHOD: Hand dug inspection pit: 0.00-1.20m on 13/08/2022 and backfilled. Continuous disturbed sampling using 101mm and 75mm sample barrels: 1.20-4.00m.
CASING: 113mm to 2.00m. Unable to case beyond 4.00m.
GROUNDWATER: None encountered.
INSTALLATION: Bentonite pellet backfill: 3.00-4.00m. 50mm ID HDPE slotted pipe with washed gravel response zone: 2.30-3.00m. 50mm ID HDPE plain pipe: 0.20-2.30m. Bentonite pellet seal 2.00-2.30m. 19mm ID HDPE slotted pipe with washed gravel response zone: 0.50-1.50m. 19mm ID HDPE plain pipe with bentonite pellet seal: 0.20-0.50m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valve fitted.
REMARKS: Terminated by engineer due to being unable to advance casing following borehole collapse at 4.00m.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
11/08/2022 17:00	4.00	2.00	

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WINDOWLESS SAMPLE LOG

Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: Info@CCGround.co.uk

Borehole No. **WS105**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561248 N 175737	Hole Type WLS
Location: Northfleet		Level: 6.04mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 21/07/2022 End: 11/08/2022	Logged By SB

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Sample	Install	Description	Depth (m)	Level (mAD)	Legend
		B	0.50				MADE GROUND: Greyish brown clayey slightly sandy angular to sub-angular fine to coarse GRAVEL of brick, concrete, siliceous material, clinker, ash and limestone with occasional rootlets (<1mm).	(0.90)		
								0.90	5.14	
1							MADE GROUND: Firm brown slightly sandy gravelly silty CLAY. Gravel is angular to sub-rounded fine to coarse of siliceous material, brick and clinker.	1.20	4.84	1
							MADE GROUND: Brown silty SAND with gravel sized ash and charcoal fragments (<2mm). Sand is fine to coarse.	(1.10)		
		D	1.80							
2		SPT	2.00 - 2.45	S 1			2.00m: Very Loose.			2
							Very soft dark grey black silty CLAY with frequent lenses of partially decomposed organic matter (<30mm).	2.30	3.74	
		D	2.50							
3		SPT	3.00 - 3.45	S 5				(1.10)		3
		D	3.50				Very loose dark grey black slightly gravelly silty SAND with frequent pockets of organic matter (<30mm). Gravel is angular fine to coarse of charcoal. Sand is fine to coarse. 3.60-3.70m: Sandy clay.	3.40	2.64	
4		SPT	4.00 - 4.45	S<1						4
		D	4.50					(2.60)		
5		SPT	5.00 - 5.45	S<1			5.00-6.00m: No recovery.			5
6		SPT	6.00 - 6.45	S<1			Borehole completed at 6.00m	6.00	0.04	6
7										7
8										8

EQUIPMENT: Hand digging tools. Terrier 2002 track mounted rig.
METHOD: Hand dug inspection pit 0.00-1.20m on 21/07/2022 and backfilled. Continuous disturbed sampling using 101mm and 75mm sample barrels: 0.00-6.00m.
CASING: 113mm to 5.00m.
GROUNDWATER: None encountered.
INSTALLATION: Bentonite pellet backfill: 3.50-6.00m. 50mm ID HDPE slotted pipe with washed gravel response zone: 2.50-3.50m. 50mm ID HDPE plain pipe: 0.20-2.50m. Bentonite pellet seal 1.70-2.50m. 19mm ID HDPE slotted pipe with washed gravel response zone: 0.50-1.70m. 19mm ID HDPE plain pipe with bentonite pellet seal: 0.20-0.50m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valve fitted.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
11/08/2022 17:00	6.00	5.00	

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WINDOWLESS SAMPLE LOG

Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: Info@CCGround.co.uk

Borehole No. **WS106**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561268 N 175738	Hole Type WLS
Location: Northfleet		Level: 5.64mAOD	Scale 1 : 50.00
Client: Britannia Refined Metals Ltd		Dates: Start: 21/07/2022 End: 11/08/2022	Logged By SB

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Sample	Install	Description	Depth (m)	Level (mAD)	Legend
							MADE GROUND: Greyish brown clayey sandy silty angular to sub-angular fine to coarse GRAVEL of brick, concrete, siliceous material, clinker, ash and limestone with occasional rootlets (<1mm).	(0.40) 0.40	5.24	
1		B D	0.50				MADE GROUND: Greyish brown gravelly clayey SAND. Gravel is angular to sub-rounded fine to coarse of siliceous material, brick, clinker. Sand is fine to coarse of ash. From 0.90m: Locally tending to gravel.	(1.60)		
		D	1.50							
2		SPT	2.00 - 2.45	S 13			Borehole completed at 2.00m	2.00	3.64	
3										
4										
5										
6										
7										
8										

EQUIPMENT: Hand digging tools. Terrier 2002 track mounted rig.
METHOD: Continuous disturbed sampling using a 101mm sample barrel: 0.00-2.00m.
CASING: 113mm to 2.00m.
GROUNDWATER: None encountered.
INSTALLATION: 50mm ID HDPE slotted pipe with washed gravel response zone: 1.00-2.00m. 50mm ID HDPE plain pipe with bentonite pellet seal: 0.20-1.00m. Flush 150mm steel cover set in concrete: 0.00-0.20m. Gas valve fitted.
REMARKS: Terminated at 2.00m as instructed by engineer.

Groundwater:

Date	Strike Depth (m)	Casing Depth (m)	Depth After Observation (m)

Hole Progress:

Date	Hole Depth (m)	Casing Depth (m)	Water Depth (m)
11/08/2022 17:00	2.00	2.00	

CC Ground Investigations Limited

STANDARD PENETRATION TEST

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

CC Ground Investigations Ltd

Client:	Britannia Refined Metals Ltd	Contract:	C7644
Site:	BRM Area 4	Checked:	RT

Notes:

1 Test carried out in general accordance with BS EN ISO 22476: Part 3 (2005)+A1: 2011

2 N values have not been subjected to any correction.

3 Test carried out using split spoon S, solid cone C.

4 Where full test drive not completed, linearly extrapolated N value reported.

5 <1 Denotes hammer self weight penetration (sank under own weight).

6 ** Denotes no effective penetration.

BH	Top Depth (m)	Type	Seating Blows	Blows Main Test	Total Penetration (mm)	Casing Depth (m)	Water Depth (m)	Self-Weight Penetration (mm)	Blows 1	Blows 2	Blows 3	Blows 4	Blows 5	Blows 6	Pen 1 (mm)	Pen 2 (mm)	Pen 3 (mm)	Pen 4 (mm)	Pen 5 (mm)	Pen 6 (mm)	Spt 'N' Value	SPT Reported Result	Hammer Serial Number	Hammer Energy Ratio (%)
BH103	1.20	S	6	7	450	1.20		0	4	2	3	2	1	1	75	75	75	75	75	75	7	S 7	CC04	65
BH103	2.00	S	1	1	450	1.70		0	0	1	0	0	1	0	75	75	75	75	75	75	1	S <1	CC04	65
BH103	3.00	S	1	2	450	3.00		0	0	1	0	1	0	1	75	75	75	75	75	75	2	S 2	CC04	65
BH103	5.00	S	2	3	450	5.00		0	1	1	0	1	1	1	75	75	75	75	75	75	3	S 3	CC04	65
BH103	8.00	S	1	2	450	8.00	5.1	0	1	0	0	1	0	1	75	75	75	75	75	75	2	S 2	CC04	65
BH103	11.00	S	5	14	450	10.70		0	3	2	3	4	4	3	75	75	75	75	75	75	14	S 14	CC04	65
BH103	14.00	S	3	8	450	13.50	13	0	2	1	2	2	2	2	75	75	75	75	75	75	8	S 8	CC04	65
BH103	17.00	S	5	8	450	16.70		0	3	2	2	1	2	3	75	75	75	75	75	75	8	S 8	CC04	65
BH103	18.50	S	3	14	450	18.50	7.5	0	2	1	3	3	4	4	75	75	75	75	75	75	14	S 14	CC04	65
BH103	20.00	S	10	36	450	20.00	6	0	4	6	6	7	10	13	75	75	75	75	75	75	36	S 36	CC04	65
BH103	21.50	C	0	11	450	21.50	5.1	0	0	0	2	2	3	4	75	75	75	75	75	75	11	C 11	CC04	65
BH103	25.00	S	8	22	450	25.00	9.84	0	4	4	4	5	6	7	75	75	75	75	75	75	22	S 22	CC17	64
BH103	26.50	S	5	23	450	25.00	4.02	0	2	3	4	5	7	7	75	75	75	75	75	75	23	S 23	CC17	64
BH103	27.50	S	18	41	450	25.00	5.61	0	9	9	9	10	10	12	75	75	75	75	75	75	41	S 41	CC17	64
BH103	30.50	S	11	26	450	27.50	5.85	0	4	7	6	7	6	7	75	75	75	75	75	75	26	S 36	CC17	64
BH103	32.00	S	4	18	450	32.00	4.74	0	2	2	4	4	5	5	75	75	75	75	75	75	18	S 18	CC17	64
BH103	33.50	S	14	37	450	32.00	4.4	0	5	9	9	9	8	11	75	75	75	75	75	75	37	S 37	CC17	64
BH103	35.00	S	25	50	320	33.50	3.75	0	12	13	17	24	9		75	75	75	75	20		50	S*88	CC17	64
BH104	2.00	S	0	3	450			225	0	0	0	1	1	1	75	75	75	75	75	75	3	S 3	CC04	65
BH104	3.00	S	1	6	450	3.00		150	0	1	0	2	2	2	75	75	75	75	75	75	6	S 5	CC04	65
BH104	5.00	S	0	3	450	4.70		150	0	0	1	0	1	1	75	75	75	75	75	75	3	S 3	CC04	65
BH104	8.00	S	3	6	450	8.00		0	2	1	2	1	1	2	75	75	75	75	75	75	6	S 6	CC04	65
BH104	11.00	S	3	11	450	10.70		0	1	2	2	3	3	3	75	75	75	75	75	75	11	S 11	CC04	65
BH104	14.00	S	1	4	450	14.00		0	1	0	1	1	1	1	75	75	75	75	75	75	4	S 4	CC04	65
BH104	15.50	C	19	50	385	15.50	6	0	6	13	13	13	17	7	75	75	75	75	75	10	50	C*64	CC04	65
BH104	17.00	C	2	15	450	17.00	17	0	1	1	3	3	4	5	75	75	75	75	75	75	15	C 15	CC04	65

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STANDARD PENETRATION TEST

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

CC Ground Investigations Ltd

Client:	Britannia Refined Metals Ltd	Contract:	C7644
Site:	BRM Area 4	Checked:	RT

Notes:

1 Test carried out in general accordance with BS EN ISO 22476: Part 3 (2005)+A1: 2011

2 N values have not been subjected to any correction.

3 Test carried out using split spoon S, solid cone C.

4 Where full test drive not completed, linearly extrapolated N value reported.

5 <1 Denotes hammer self weight penetration (sank under own weight).

6 ** Denotes no effective penetration.

BH	Top Depth (m)	Type	Seating Blows	Blows Main Test	Total Penetration (mm)	Casing Depth (m)	Water Depth (m)	Self-Weight Penetration (mm)	Blows 1	Blows 2	Blows 3	Blows 4	Blows 5	Blows 6	Pen 1 (mm)	Pen 2 (mm)	Pen 3 (mm)	Pen 4 (mm)	Pen 5 (mm)	Pen 6 (mm)	Spt 'N' Value	SPT Reported Result	Hammer Serial Number	Hammer Energy Ratio (%)
BH104	20.00	C	2	16	450	20.00	7.50	0	1	1	3	3	5	5	75	75	75	75	75	75	16	C 16	CC04	65
BH104	23.50	S	3	8	450	23.50	7.4	0	1	2	1	3	2	2	75	75	75	75	75	75	8	S 8	CC17	64
BH104	25.00	S	10	20	450	25.00	5.02	0	2	8	5	5	5	5	75	75	75	75	75	75	20	S 20	CC17	64
BH104	26.50	S	4	18	450	26.50	4.51	0	2	2	3	4	6	5	75	75	75	75	75	75	18	S 18	CC17	64
BH104	27.70	S	25	50	90	27.70	5.21	0	25		50				25		65				50	S*231	CC17	64
BH104	30.00	C	19	50	350	27.70	4.43	0	8	11	15	18	17		75	75	75	75	50		50	C*75	CC17	64
BH105	1.20	S	10	25	450			0	2	8	8	6	6	5	75	75	75	75	75	75	25	S 25	CC04	65
BH105	2.00	S	2	11	450	2.00		0	1	1	1	3	3	4	75	75	75	75	75	75	11	S 11	CC04	65
BH105	3.00	S	1	2	450	3.00		0	1	0	1	1	0	0	75	75	75	75	75	75	2	S 2	CC04	65
BH105	4.00	S	0	1	450	4.00		375	0	0	0	0	0	1	75	75	75	75	75	75	1	S<1	CC04	65
BH105	5.00	S	1	4	450	5.00		0	1	0	1	1	1	1	75	75	75	75	75	75	4	S 4	CC04	65
BH105	6.50	S	2	4	450	6.20		0	1	1	1	1	1	1	75	75	75	75	75	75	4	S 4	CC04	65
BH105	9.50	S	0	0	450	9.20		450	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	CC04	65
BH105	12.50	S	1	1	450	12.50		0	1	0	0	1	0	0	75	75	75	75	75	75	1	S 1	CC04	65
BH105	15.50	S	3	7	450	15.00		0	1	2	2	2	1	2	75	75	75	75	75	75	7	S 7	CC04	65
BH105	18.50	S	2	4	450	18.50		0	1	1	1	1	1	1	75	75	75	75	75	75	4	S 4	CC04	65
BH105	21.50	S	1	13	450	21.50		0	1	0	1	4	4	4	75	75	75	75	75	75	13	S 13	CC04	65
BH105	25.00	S	6	14	450	25.00	10.08	0	3	3	2	4	4	4	75	75	75	75	75	75	14	S 14	CC17	64
BH105	26.50	S	3	10	450	26.50	5.84	0	1	2	2	2	3	3	75	75	75	75	75	75	10	S 10	CC17	64
BH105	28.00	S	8	19	450	28.00	6.05	0	2	6	4	5	5	5	75	75	75	75	75	75	19	S 19	CC17	64
BH105	29.00	S	8	30	450	28.00	6.10	0	4	4	7	7	7	9	75	75	75	75	75	75	30	S 30	CC17	64
BH106	2.00	C	0	2	450		1.6	0	0	0	1	0	0	1	75	75	75	75	75	75	2	C 2	CC04	65
BH106	3.00	C	2	4	450		2.5	0	1	1	1	1	1	1	75	75	75	75	75	75	4	C 4	CC04	65
BH106	4.00	S	0	0	0			450	0	0	0	0	0	0	0	0	0	0	0	0	0	S<1	CC01	66
BH106	5.00	S	0	0	0			450	0	0	0	0	0	0	0	0	0	0	0	0	0	S<1	CC01	66
BH106	6.50	S	0	0	0			450	0	0	0	0	0	0	0	0	0	0	0	0	0	S<1	CC01	66

CC Ground Investigations Limited

STANDARD PENETRATION TEST

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

CC Ground Investigations Ltd

Client:	Britannia Refined Metals Ltd	Contract:	C7644
Site:	BRM Area 4	Checked:	RT

Notes:

1 Test carried out in general accordance with BS EN ISO 22476: Part 3 (2005)+A1: 2011

2 N values have not been subjected to any correction.

3 Test carried out using split spoon S, solid cone C.

4 Where full test drive not completed, linearly extrapolated N value reported.

5 <1 Denotes hammer self weight penetration (sank under own weight).

6 ** Denotes no effective penetration.

BH	Top Depth (m)	Type	Seating Blows	Blows Main Test	Total Penetration (mm)	Casing Depth (m)	Water Depth (m)	Self-Weight Penetration (mm)	Blows 1	Blows 2	Blows 3	Blows 4	Blows 5	Blows 6	Pen 1 (mm)	Pen 2 (mm)	Pen 3 (mm)	Pen 4 (mm)	Pen 5 (mm)	Pen 6 (mm)	Spt 'N' Value	SPT Reported Result	Hammer Serial Number	Hammer Energy Ratio (%)
BH106	8.00	S	0	0	0			450	0	0	0	0	0	0	0	0	0	0	0	0	0	S<1	CC01	66
BH106	9.50	S	0	0	0			450	0	0	0	0	0	0	0	0	0	0	0	0	0	S<1	CC01	66
BH106	12.50	S	0	4	225	10.50		225	0	0	0	2	1	1	0	0	0	75	75	75	4	S 4	CC01	66
BH106	20.50	C	3	17	450	21.00	2.9	0	1	2	4	4	5	4	75	75	75	75	75	75	17	C 17	CC01	66
BH106	22.50	S	6	6	450	22.50	6.98	0	3	3	2	2	1	1	75	75	75	75	75	75	6	S 6	CC17	64
BH106	23.50	S	3	13	450	23.50	6.78	0	2	1	3	2	3	5	75	75	75	75	75	75	13	S 13	CC17	64
BH106	24.70	C	19	27	450	23.50	5.22	0	12	7	7	7	6	7	75	75	75	75	75	75	27	C 27	CC17	64
BH106	27.50	C	11	40	450	27.50	5.24	0	6	5	6	6	10	18	75	75	75	75	75	75	40	C 40	CC17	64
BH106	29.00	C	14	50	410	29.00	5.94	0	4	10	24	13	8	5	75	75	75	75	75	35	50	C*58	CC17	64
BH106	33.50	C	24	50	390	29.00	4.82	0	13	11	13	13	17	7	75	75	75	75	75	15	50	C*63	CC17	64
WS101	1.20	S	2	8	450			0	1	1	2	2	2	2	75	75	75	75	75	75	8	S 8	T06	68
WS101	2.00	S	0	0	450	2.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS101	3.00	S	0	0	450	3.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS101	4.00	S	0	0	450	4.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS101	5.00	S	0	0	450	5.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS101	6.00	S	0	0	450	5.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS102	1.20	S	0	4	450			0	0	0	0	1	1	2	75	75	75	75	75	75	4	S 4	T06	68
WS102	2.00	S	0	0	450	2.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS102	3.00	S	0	0	450	3.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS102	4.00	S	0	0	450	4.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS102	5.00	S	0	0	450	5.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS102	6.00	S	0	0	450	5.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS103	1.00	S	22	38	450	1.00		0	5	17	13	10	8	7	75	75	75	75	75	75	38	S 38	T08	62
WS103	2.00	S	0	1	450	2.00		0	0	0	0	0	0	1	75	75	75	75	75	75	1	S 1	T08	62
WS103	3.00	S	0	2	450	3.00		0	0	0	0	0	1	1	75	75	75	75	75	75	2	S 2	T08	62
WS103	4.00	S	0	1	450	4.00		0	0	0	0	0	0	1	75	75	75	75	75	75	1	S 1	T08	62

CC Ground Investigations Limited

STANDARD PENETRATION TEST

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

CC Ground Investigations Ltd

Client:	Britannia Refined Metals Ltd	Contract:	C7644
Site:	BRM Area 4	Checked:	RT

Notes:

1 Test carried out in general accordance with BS EN ISO 22476: Part 3 (2005)+A1: 2011

2 N values have not been subjected to any correction.

3 Test carried out using split spoon S, solid cone C.

4 Where full test drive not completed, linearly extrapolated N value reported.

5 <1 Denotes hammer self weight penetration (sank under own weight).

6 ** Denotes no effective penetration.

BH	Top Depth (m)	Type	Seating Blows	Blows Main Test	Total Penetration (mm)	Casing Depth (m)	Water Depth (m)	Self-Weight Penetration (mm)	Blows 1	Blows 2	Blows 3	Blows 4	Blows 5	Blows 6	Pen 1 (mm)	Pen 2 (mm)	Pen 3 (mm)	Pen 4 (mm)	Pen 5 (mm)	Pen 6 (mm)	Spt 'N' Value	SPT Reported Result	Hammer Serial Number	Hammer Energy Ratio (%)
WS103	5.00	S	0	0	450	5.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T08	62
WS103	6.00	S	0	0	450	6.00	5.74	0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T08	62
WS104	2.00	S	0	0	450	2.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS104	3.00	S	1	2	450	2.00		0	0	1	2	0	0	0	75	75	75	75	75	75	2	S 2	T06	68
WS105	2.00	S	1	1	450	2.00		0	1	0	0	1	0	0	75	75	75	75	75	75	1	S 1	T06	68
WS105	3.00	S	0	5	450	3.00		0	0	0	0	2	2	1	75	75	75	75	75	75	5	S 5	T06	68
WS105	4.00	S	0	0	450	4.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS105	5.00	S	0	0	450	5.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS105	6.00	S	0	0	450	5.00		0	0	0	0	0	0	0	75	75	75	75	75	75	0	S<1	T06	68
WS106	2.00	S	11	13	450	2.00		0	6	5	4	4	3	2	75	75	75	75	75	75	13	S 13	T06	68

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DYNAMIC PROBE LOG

EN ISO 22476-2

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Probe No **DP101**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561181 N 175835 Level: 4.80mAOD	Date 10/08/2022
Location: Northfleet		**Specification: DPSH-B** Hammer Mass: 64Kg Drop Height: 750mm Cone Base Diameter: 51mm	Scale 1 : 50
Client: Britannia Refined Metals Ltd			Rig No. T06

Depth (m)	Readings (blows/100mm)	Diagram (N100 Values) 5 10 15 20 25 30 35 40 45 50	Torque (Nm)	Remarks
1	1 4 8 17 17		27	
2	11 10 7 6 4		14	
3	5 4 3 2 2		14	
4	0 0 0 0 0		14	
5	0 0 0 0 0		14	
6	0 0 0 0 0		14	. Dynamic probe completed at 6.00m
7				

EQUIPMENT: Terrier 2002 track mounted rig.

METHOD: Dynamic probing (SH) 0.00-6.00m.

REMARKS: Dynamic probe undertaken adjacent to WS101 from 1.50m probe sinking under own weight.

CC Ground Investigations Ltd

DYNAMIC PROBE LOG

EN ISO 22476-2

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Probe No **DP102**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561198 N 175842 Level: 4.81mAOD	Date 10/08/2022
Location: Northfleet		**Specification: DPSH-B** Hammer Mass: 64Kg Drop Height: 750mm Cone Base Diameter: 51mm	Scale 1 : 50
Client: Britannia Refined Metals Ltd			Rig No. T06

Depth (m)	Readings (blows/100mm)	Diagram (N100 Values) 5 10 15 20 25 30 35 40 45 50	Torque (Nm)	Remarks
1	2 2 9 20 21 / 16 12 7 7 6 / 4 1 3 3 4 / 2 0 0 0 0		27	
2	0 0 0 0 0 / 0 0 0 0 0 / 0 0 0 0 1		27	
3	0 0 0 0 0 / 0 0 0 0 0 / 0 0 0 0 0		20	
4	0 0 0 0 0 / 0 0 0 0 0 / 0 0 0 0 0		20	
5	6 1 1 2 2 / 1 1 1 1 2		20	
6			27	. Dynamic probe completed at 6.00m
7				

EQUIPMENT: Terrier 2002 track mounted rig.

METHOD: Dynamic probing (SH) 0.00-6.00m.

REMARKS: Dynamic probe undertaken adjacent to WS102 from 1.60-5.00m probe sinking under own weight.

CC Ground Investigations Ltd

TRIAL PIT LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Pit No **TP101** Sheet 1 of 2

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561198 N 175800 Level: 4.72mAOD	Date 15/07/2022
Location: Northfleet		Dimensions: 0.80m Depth 4.00m 2.70m	Scale 1 : 25
Client: Britannia Refined Metals Ltd			Logged By AK

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Description	Depth (m)	Level (mAD)	Legend
					MADE GROUND: Grass over very friable light brown slightly gravelly slightly sandy CLAY with frequent roots and rootlets (<10mm). Gravel is angular to sub-rounded fine to coarse of brick and siliceous material.	(0.20)		
						0.20	4.52	
					MADE GROUND: Light brown slightly gravelly clayey fine to coarse SAND with frequent roots and rootlets (<5mm). Gravel is angular to sub-rounded fine to coarse of brick and siliceous material.	(0.20)		
						0.40	4.32	
		B	0.50 - 1.00		MADE GROUND: Light grey very sandy sub-angular to rounded fine to coarse GRAVEL of flint and siliceous material.			
						(0.90)		
1					1.00-1.30m: Light grey very sandy slightly clayey sub-angular to sub-rounded gravel of flint and siliceous material.			1
					1.20-1.30m: 1No metal chain link (<30cm).			
					Dark grey very clayey fine to coarse SAND.	1.30	3.42	
						(0.40)		
		B	1.70 - 2.00		Soft extremely thinly laminated dark grey mottled black sandy micaceous CLAY with frequent interbedding of silt (<3mm).	1.70	3.02	
2		D	2.00					2
						(1.30)		
		B	2.70 - 3.00					
3		D	3.00		Soft black very sandy micaceous CLAY with rare lignite fragments (<3mm) and a strong organic odour.	3.00	1.72	3
						(1.00)		
		B	3.70 - 4.00					
4					Trial pit completed at 4.00m			4

EQUIPMENT: JCB 3CX Mechanical Excavator.
METHOD: Trial pits excavated using 45cm bucket.
GROUNDWATER: None encountered.
STABILITY: Trial pit generally stable.
BACKFILL: Trial pit backfilled with arisings and compacted with excavator bucket.
REMARKS: Client agreed termination of pit at 4.00m.

CC Ground Investigations Ltd

TRIAL PIT LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Pit No **TP102**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561205 N 175755 Level: 5.46mAOD	Date 15/07/2022
Location: Northfleet		Dimensions: 0.90m, Depth 3.70m, 2.70m	Scale 1 : 25
Client: Britannia Refined Metals Ltd			Logged By AK

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Description	Depth (m)	Level (mAD)	Legend
					MADE GROUND: Light greyish brown sandy clayey angular to sub-rounded fine to coarse GRAVEL of brick, concrete, glass, metal, plastic and siliceous material.			
		B	0.50 - 1.00		0.45m: Brown. 0.46m: Plastic sheeting. 0.55m: Rebar (<10mm). 0.62m: 1No concrete boulder (20cm x 30cm). 0.70m: High cobble content. Cobbles are angular to sub-rounded of concrete.			
1					1.00m: Becoming very clayey.	(2.10)		
		B	1.70 - 2.00					
2	▼				Soft dark grey locally black slightly gravelly sandy CLAY. Gravel is angular to sub-rounded fine to coarse of lignite and siliceous material.	2.10	3.36	
		B	2.40 - 2.70			(0.60)		
		D	2.50					
					Soft extremely thinly laminated black locally grey micaceous CLAY interbedded with silt. With frequent lignite fragments (<5mm).	2.70	2.76	
3						(1.00)		
		B	3.40 - 3.70					
		D	3.50					
					Trial pit completed at 3.70m	3.70	1.76	
4								

EQUIPMENT: JCB 3CX Mechanical Excavator.

METHOD: Trial pits excavated using 45cm bucket.

GROUNDWATER: Groundwater see page at 2.00m.

STABILITY: Trial pit generally stable.

BACKFILL: Trial pit backfilled with arisings and compacted with excavator bucket.

REMARKS: Client agreed termination of pit at 3.70m.

CC Ground Investigations Ltd

TRIAL PIT LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Pit No **TP103**

Sheet 1 of 2

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561252 N 175770 Level: 5.94mAOD	Date 15/07/2022
Location: Northfleet		Dimensions: 0.80m Depth 4.00m 2.40m	Scale 1 : 25
Client: Britannia Refined Metals Ltd			Logged By AK

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Description	Depth (m)	Level (mAD)	Legend
		B	0.50 - 1.00		MADE GROUND: Brown sandy slightly clayey angular to sub-rounded fine to coarse GRAVEL of brick, concrete, ceramics, glass, plastic, metal and siliceous material. 0.20m: Black plastic mesh.	(1.60)		
1								1
		B	1.70 - 2.00		Dark grey gravelly clayey fine to coarse SAND. Gravel is angular to sub-rounded fine to coarse of siliceous material.	1.60	4.34	
2						(1.40)		2
		B	2.70 - 3.00		2.60m: Becoming light brown.			
3		B D	3.00 - 3.20 3.10		Soft black locally dark grey sandy micaceous CLAY with rare lignite fragments (<3mm).	3.00	2.94	3
						(1.00)		
4					Trial pit completed at 4.00m			4

EQUIPMENT: JCB 3CX Mechanical Excavator.

METHOD: Trial pits excavated using 45cm bucket.

GROUNDWATER: None encountered.

STABILITY: Trial pit collapsed back to 3.20m from 4.00m.

BACKFILL: Trial pit backfilled with arisings and compacted with excavator bucket.

REMARKS: Difficult excavation on hard ground at 1.50m. Client agreed termination of pit after collapse back to 3.20m from 4.00m.

CC Ground Investigations Ltd

TRIAL PIT LOG

Telephone: 01452 739165, Fax: 01452 739220, Email: info@ccground.co.uk

Pit No **TP104**

Sheet 1 of 2

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561227 N 175741 Level: 5.72mAOD	Date 15/07/2022
Location: Northfleet		Dimensions: 0.80m Depth 4.00m 2.50m	Scale 1 : 25
Client: Britannia Refined Metals Ltd			Logged By AK

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Description	Depth (m)	Level (mAD)	Legend
					MADE GROUND: Light brown sandy clayey angular to sub-rounded fine to coarse GRAVEL of brick, concrete, glass, plastic, metal and siliceous material.			
					0.20m: Black plastic mesh.			
		B	0.50 - 1.00					
					0.80m: High cobble content of concrete.	(1.70)		
1					0.90m: Rebar. 0.95m: Boulder of concrete with rebar.			1
		B	1.70 - 2.00		MADE GROUND: Soft dark grey locally black slightly gravelly slightly sandy CLAY . Gravel is angular to rounded fine to coarse of brick and siliceous material.	1.70	4.02	
						(0.40)		
2		D	2.00					2
					Soft black locally dark grey sandy CLAY with rare exteremely thin laminations of silt and occasional lignite fragments (<3mm).	2.10	3.62	
		B	2.70 - 3.00					
3		B D	3.00 - 3.40 3.00			(1.90)		3
4					Trial pit completed at 4.00m			4

EQUIPMENT: JCB 3CX Mechanical Excavator.

METHOD: Trial pits excavated using 45cm bucket.

GROUNDWATER: None encountered.

STABILITY: Trial pit collapsed back to 3.40m from 4.00m.

BACKFILL: Trial pit backfilled with arisings and compacted with excavator bucket.

REMARKS: Client agreed termination of pit after collapse back to 3.40m from 4.00m.

CC Ground Investigations Ltd

INSPECTION PIT LOG

Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: Info@CCGround.co.uk

Pit No **HP101**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561241 N 175856 Level: 4.70mAOD	Date 14/07/2022
Location: Northfleet		Dimensions: 0.30m Depth 0.30m 0.30m	Scale 1 : 6.25
Client: Britannia Refined Metals Ltd			Logged By SB

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Description	Depth (m)	Level (mAD)	Legend
					MADE GROUND: Light grey sandy slightly clayey angular to rounded fine to coarse GRAVEL of brick, concrete, ceramics and siliceous material with occasional metal fragments (<5mm).	(0.30)		
					0.30m: Pit refused on concrete. Inspection pit completed at 0.30m	0.30	4.40	
1								

EQUIPMENT: Insulated and digging tools.

METHOD: Hand dug inspection pit: 0.00-0.30m.

CASING: None used.

GROUNDWATER: None encountered.

BACKFILL: Borehole backfilled with arisings 0.00-0.30m. Ground surface reinstated.

REMARKS: Inspection pit refused on concrete 0.30m.

CC Ground Investigations Ltd

INSPECTION PIT LOG

Telephone: 01452 739 165 , Fax: 01452 739 220 , Email: Info@CCGround.co.uk

Pit No **HP102**

Sheet 1 of 1

Project Name: BRM Area 4	Project No: **C7644**	Co-ords: E 561240 N 175854 Level: 4.78mAOD	Date 14/07/2022
Location: Northfleet		Dimensions: 0.30m × 0.30m, Depth 0.50m	Scale 1 : 6.25
Client: Britannia Refined Metals Ltd			Logged By SB

(m)	Water Levels	Samples & In Situ Testing No/Type	Depth (m)	Result	Description	Depth (m)	Level (mAD)	Legend
					MADE GROUND: Light grey sandy slightly clayey angular to rounded fine to coarse GRAVEL of brick, concrete, ceramics and siliceous material with occasional metal fragments (<5mm).	(0.50)		
					0.50m: Pit refused on concrete. Inspection pit completed at 0.50m	0.50	4.28	

EQUIPMENT: Insulated and digging tools.

METHOD: Hand dug inspection pit: 0.00-0.50m.

CASING: None used.

GROUNDWATER: None encountered.

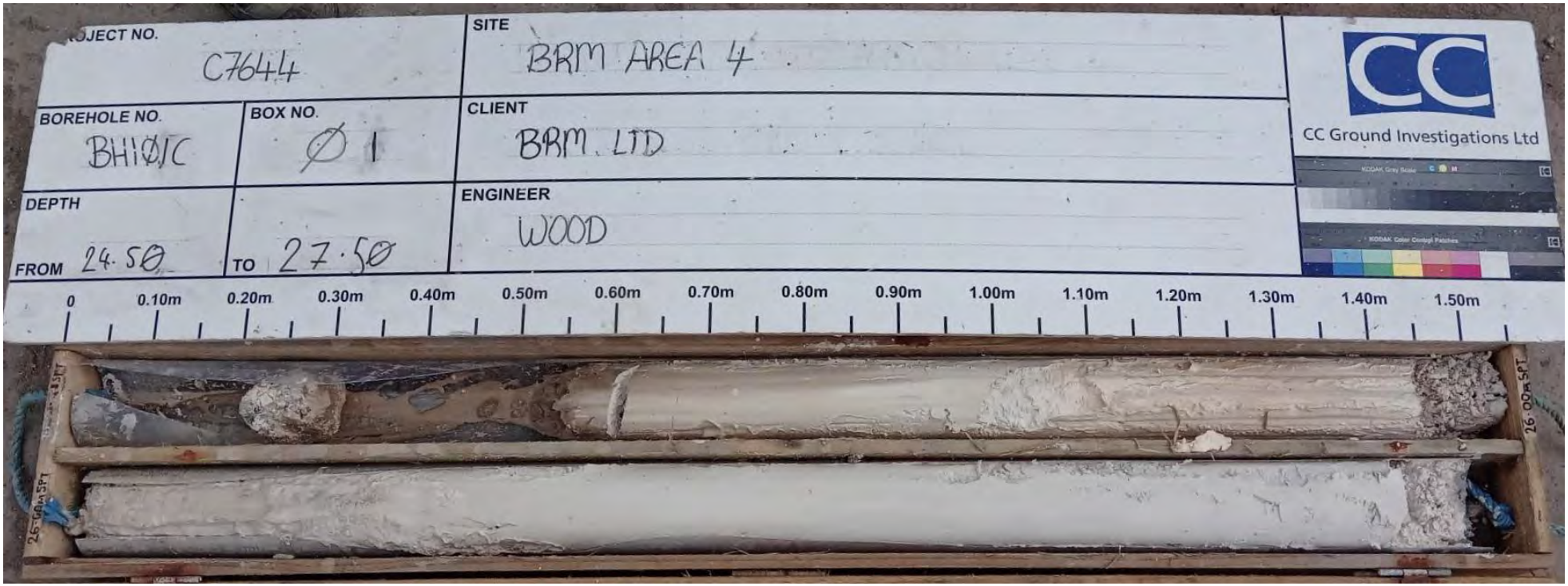
BACKFILL: Borehole backfilled with arisings 0.00-0.50m. Ground surface reinstated.

REMARKS: Inspection pit refused on concrete 0.50m.

APPENDIX C

Photographs

Core Photograph



CC Ground Investigations Ltd	**Contract ID:**	C7644	**Borehole ID:**	BH101C
	Contract Name:	BRM Area 4	**Box No:**	1
	Client:	Britannia Refined Metals Ltd	**Depth:**	24.50-27.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH101C
Contract Name:	BRM Area 4	**Box No:**	2
Client:	Britannia Refined Metals Ltd	**Depth:**	27.50-30.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH101C
Contract Name:	BRM Area 4	**Box No:**	3
Client:	Britannia Refined Metals Ltd	**Depth:**	30.50-33.50m

Core Photograph

CC Ground Investigations Ltd	**Contract ID:**	C7644	**Borehole ID:** BH101C
	Contract Name:	BRM Area 4	**Box No:** 4
	Client:	Britannia Refined Metals Ltd	**Depth:** 33.30-36.50m

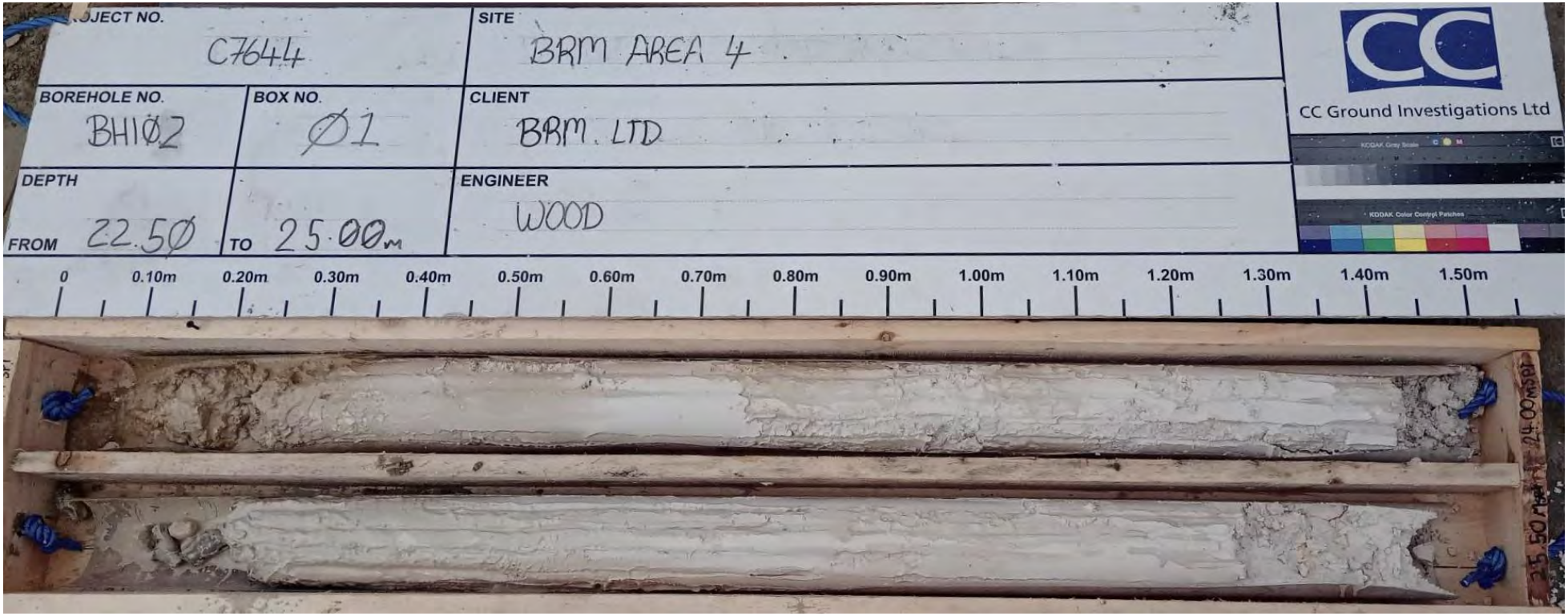
Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH101C
Contract Name:	BRM Area 4	**Box No:**	5
Client:	Britannia Refined Metals Ltd	**Depth:**	36.50-39.30m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH102
Contract Name:	BRM Area 4	**Box No:**	m
Client:	Britannia Refined Metals Ltd	**Depth:**	0.00-0.40m

Core Photograph



CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH102
Contract Name:	BRM Area 4	**Box No:**	1
Client:	Britannia Refined Metals Ltd	**Depth:**	22.50-25.00m

Core Photograph

Contract ID:	C7644	**Borehole ID:**	BH102
Contract Name:	BRM Area 4	**Box No:**	2
Client:	Britannia Refined Metals Ltd	**Depth:**	25.00-28.50m

CC Ground Investigations Ltd

Core Photograph

CC Ground Investigations Ltd	**Contract ID:**	C7644	**Borehole ID:**	BH102
	Contract Name:	BRM Area 4	**Box No:**	3
	Client:	Britannia Refined Metals Ltd	**Depth:**	28.50-31.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH102
Contract Name:	BRM Area 4	**Box No:**	4
Client:	Britannia Refined Metals Ltd	**Depth:**	31.50-34.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH102
Contract Name:	BRM Area 4	**Box No:**	5
Client:	Britannia Refined Metals Ltd	**Depth:**	34.50-37.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH102
Contract Name:	BRM Area 4	**Box No:**	6
Client:	Britannia Refined Metals Ltd	**Depth:**	37.50-40.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH103
Contract Name:	BRM Area 4	**Box No:**	1
Client:	Britannia Refined Metals Ltd	**Depth:**	25.00-27.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH103
Contract Name:	BRM Area 4	**Box No:**	2
Client:	Britannia Refined Metals Ltd	**Depth:**	27.50-30.50m

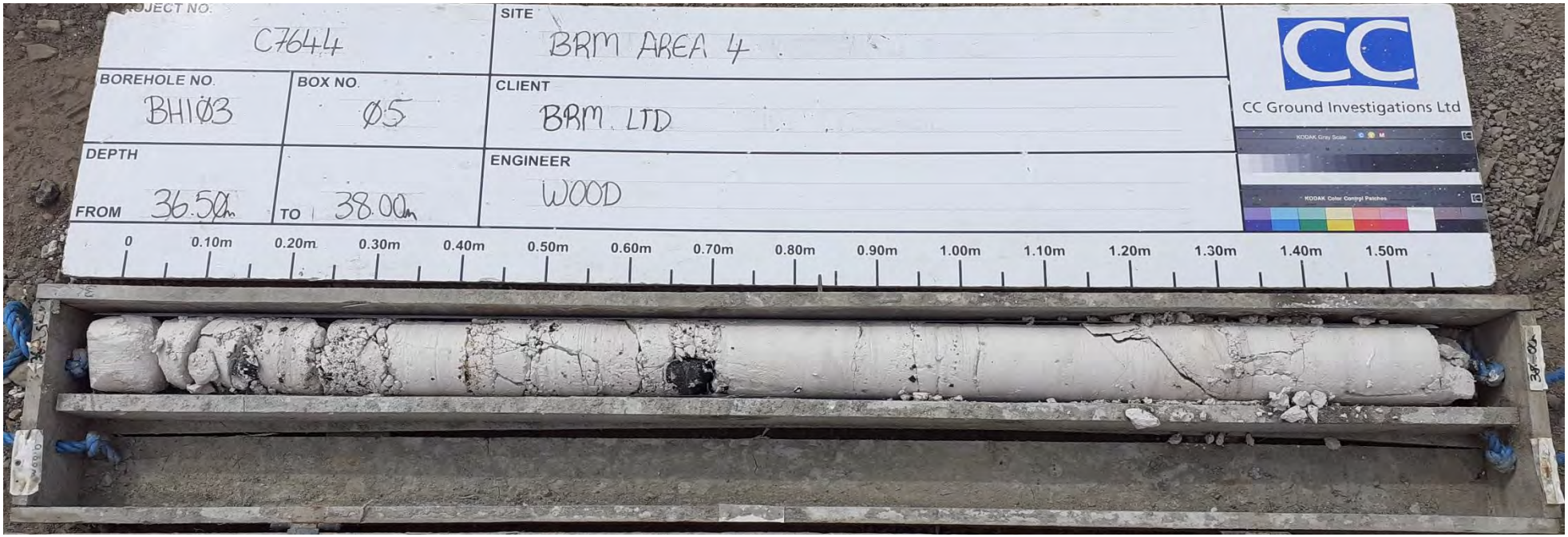
Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH103
Contract Name:	BRM Area 4	**Box No:**	3
Client:	Britannia Refined Metals Ltd	**Depth:**	30.50-34.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH103
Contract Name:	BRM Area 4	**Box No:**	4
Client:	Britannia Refined Metals Ltd	**Depth:**	33.50-36.50m

Core Photograph

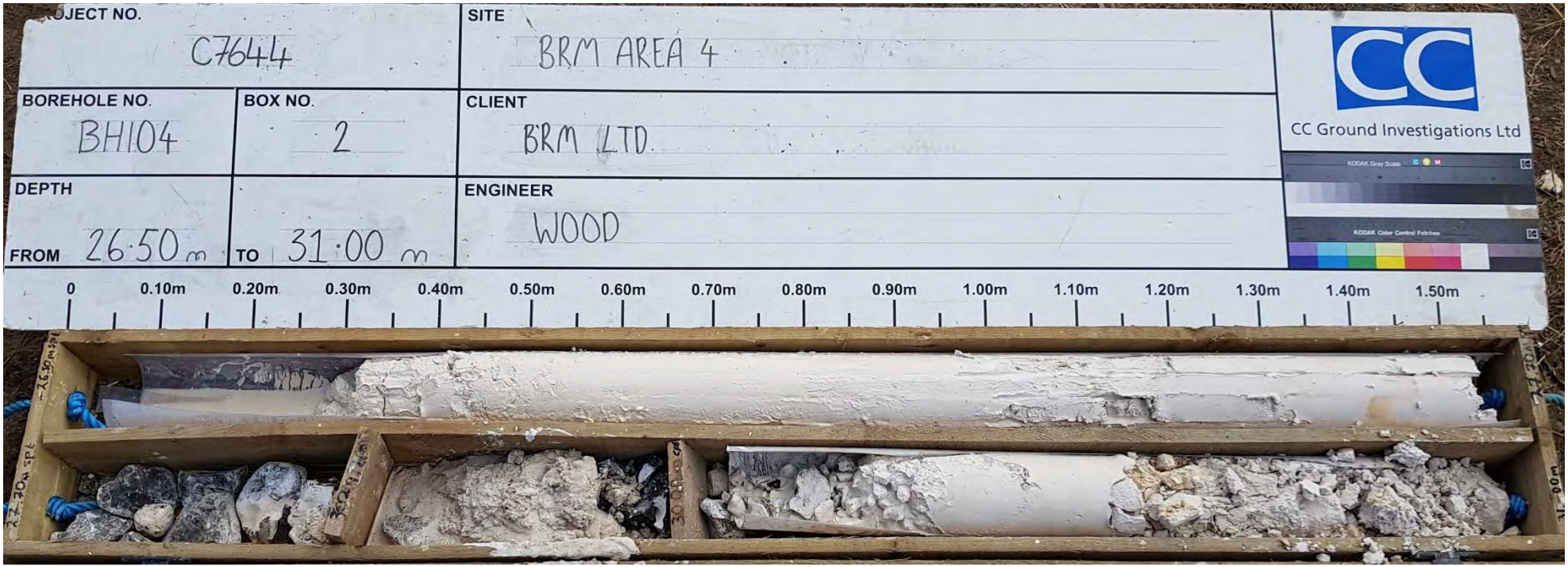


CC Ground Investigations Ltd	**Contract ID:**	C7644	**Borehole ID:** BH103
	Contract Name:	BRM Area 4	**Box No:** 5
	Client:	Britannia Refined Metals Ltd	**Depth:** 36.50-38.00m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH104
Contract Name:	BRM Area 4	**Box No:**	1
Client:	Britannia Refined Metals Ltd	**Depth:**	23.50-26.50m

Core Photograph

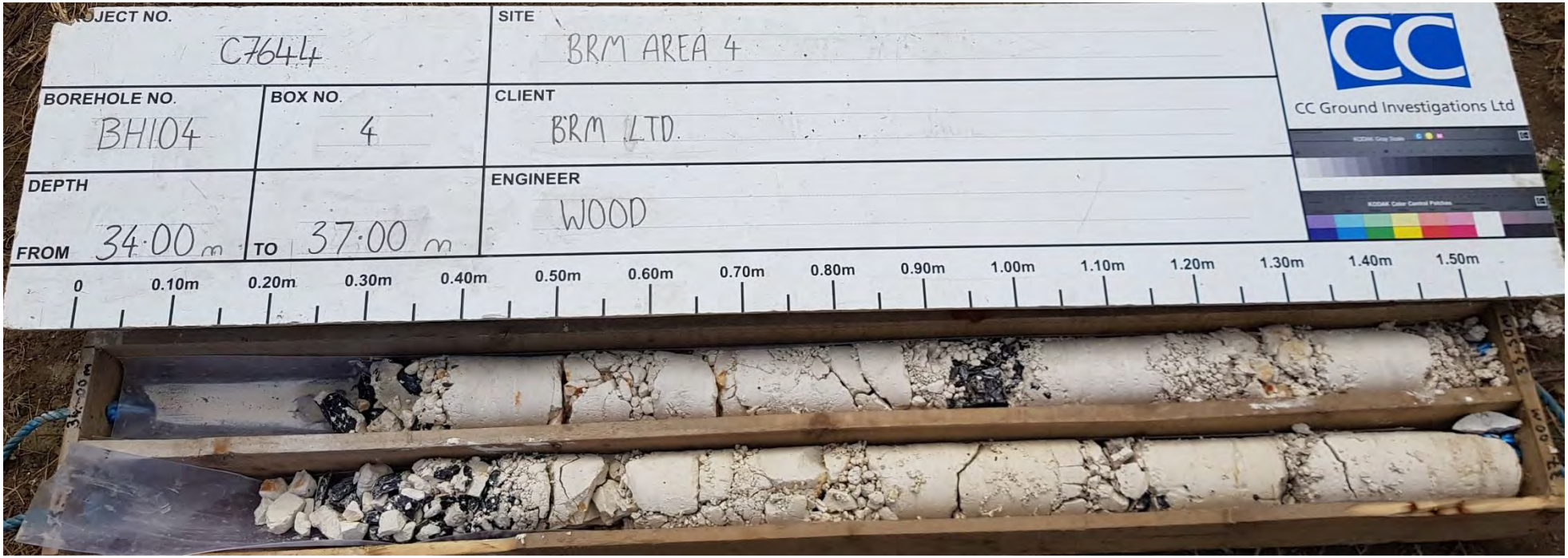


CC Ground Investigations Ltd	**Contract ID:**	C7644	**Borehole ID:**	BH104
	Contract Name:	BRM Area 4	**Box No:**	2
	Client:	Britannia Refined Metals Ltd	**Depth:**	26.50-31.00m

Core Photograph

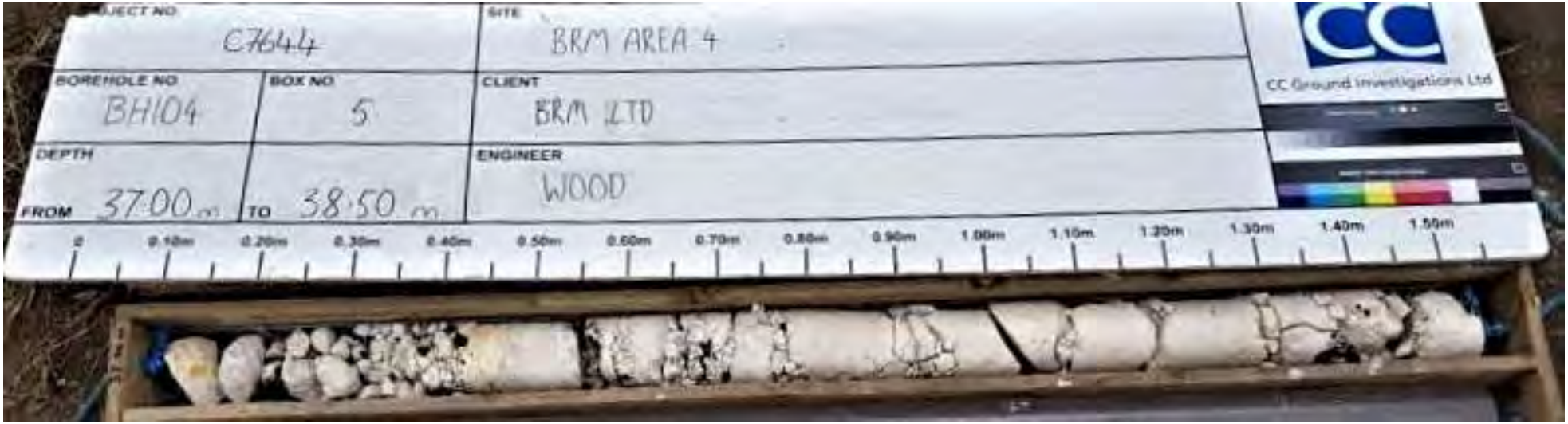
CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH104
Contract Name:	BRM Area 4	**Box No:**	3
Client:	Britannia Refined Metals Ltd	**Depth:**	31.00-34.00m

Core Photograph



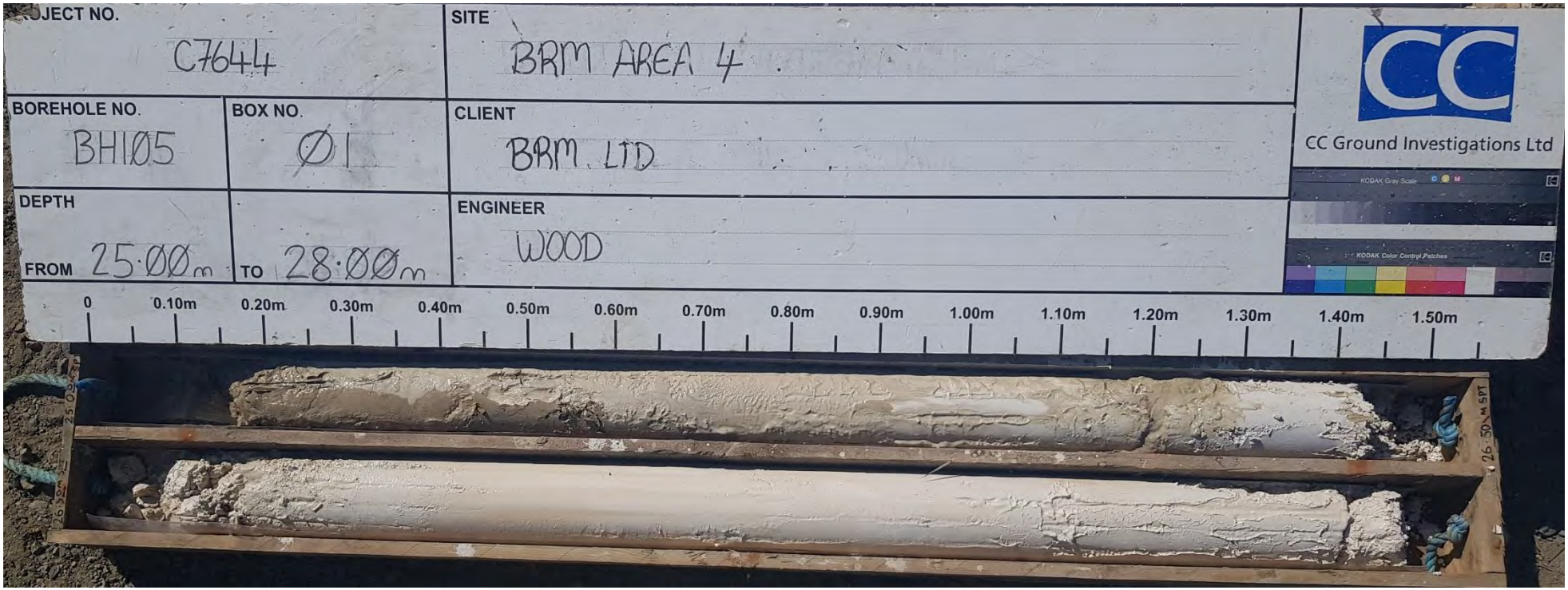
CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH104
Contract Name:	BRM Area 4	**Box No:**	4
Client:	Britannia Refined Metals Ltd	**Depth:**	34.00-37.00m

Core Photograph



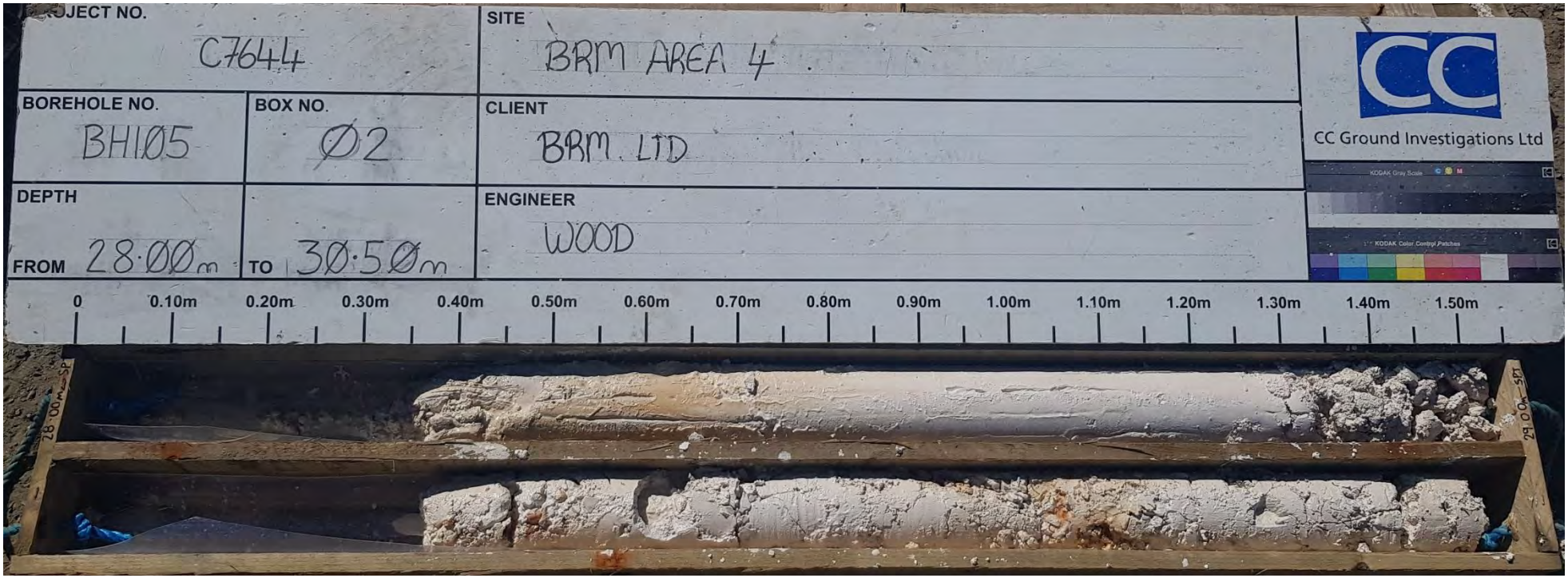
CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH104
Contract Name:	BRM Area 4	**Box No:**	5
Client:	Britannia Refined Metals Ltd	**Depth:**	37.00-38.50m

Core Photograph



CC Ground Investigations Ltd	**Contract ID:**	C7644	**Borehole ID:**	BH105
	Contract Name:	BRM Area 4	**Box No:**	1
	Client:	Britannia Refined Metals Ltd	**Depth:**	25.00-28.00m

Core Photograph



CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH105
Contract Name:	BRM Area 4	**Box No:**	2
Client:	Britannia Refined Metals Ltd	**Depth:**	28.00-30.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH105
Contract Name:	BRM Area 4	**Box No:**	3
Client:	Britannia Refined Metals Ltd	**Depth:**	30.50-33.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH106
Contract Name:	BRM Area 4	**Box No:**	1
Client:	Britannia Refined Metals Ltd	**Depth:**	22.50-24.70m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH106
Contract Name:	BRM Area 4	**Box No:**	2
Client:	Britannia Refined Metals Ltd	**Depth:**	24.70-27.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH106
Contract Name:	BRM Area 4	**Box No:**	3
Client:	Britannia Refined Metals Ltd	**Depth:**	27.50-30.50m

Core Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Borehole ID:**	BH106
Contract Name:	BRM Area 4	**Box No:**	4
Client:	Britannia Refined Metals Ltd	**Depth:**	30.50-33.50m

Window Sample Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	WS101
Contract Name:	BRM Area 4	**Depth:**	0.00-1.20m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	WS101
Contract Name:	BRM Area 4	**Depth:**	1.20-6.00m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph

CC Ground Investigations Ltd

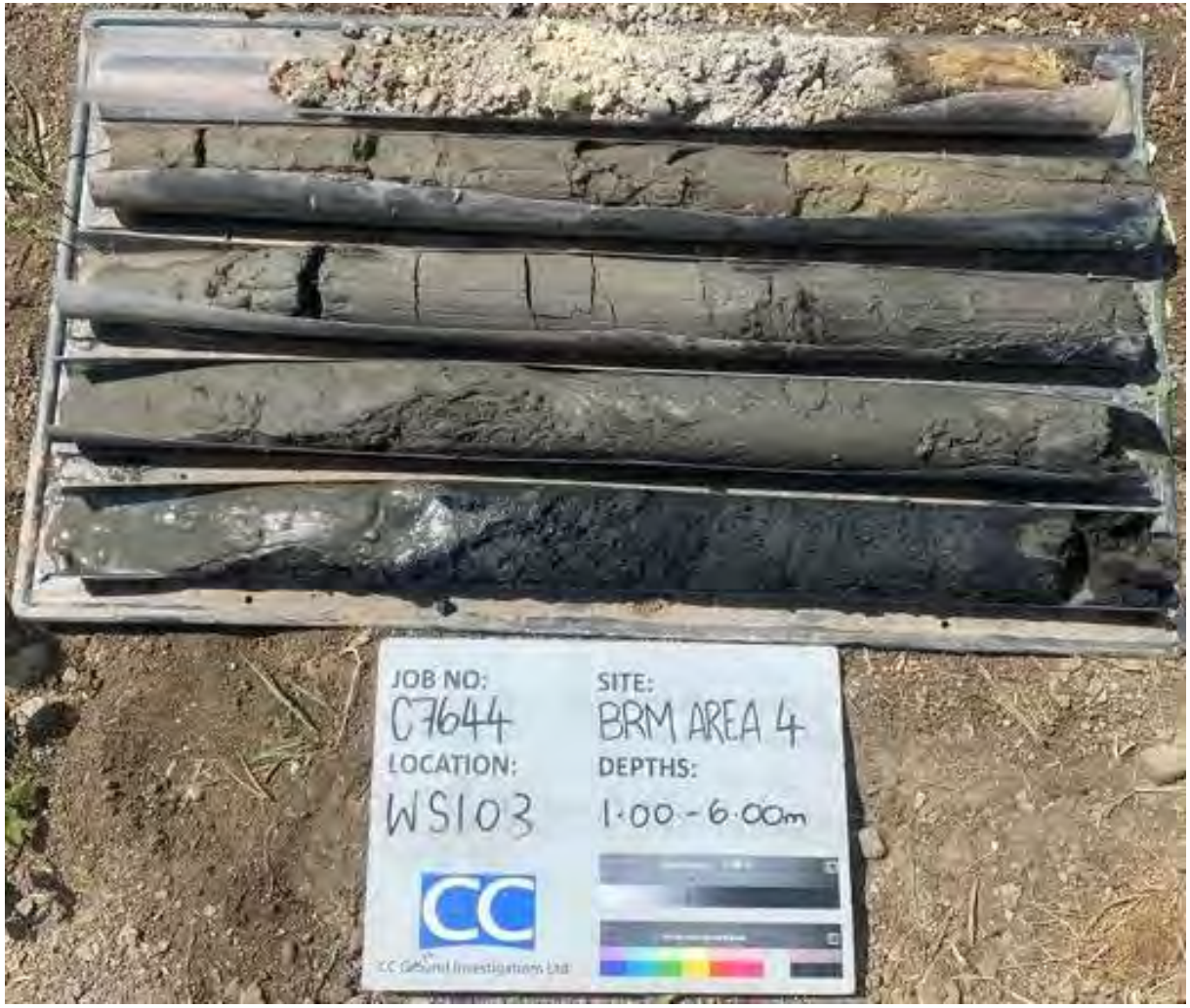
Contract ID:	C7644	**Hole ID:**	WS102
Contract Name:	BRM Area 4	**Depth:**	0.00-1.20m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	WS102
Contract Name:	BRM Area 4	**Depth:**	1.20-6.00m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph



CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	WS103
Contract Name:	BRM Area 4	**Depth:**	1.00-6.00m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Hole ID:**	WS104
Contract Name:	BRM Area 4	**Depth:**	0.00-1.20m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	WS104
Contract Name:	BRM Area 4	**Depth:**	1.20-4.00m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph

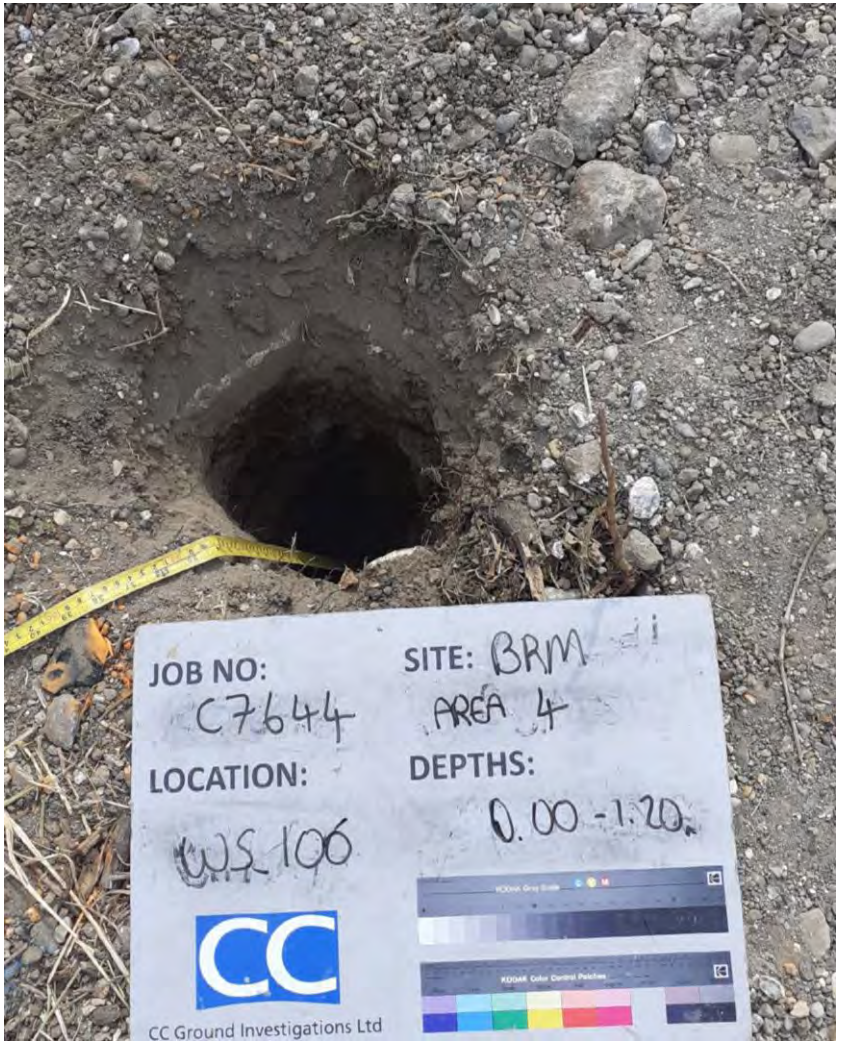
CC Ground Investigations Ltd			
Contract ID:	C7644	**Hole ID:**	WS105
Contract Name:	BRM Area 4	**Depth:**	0.00-1.20m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	WS105
Contract Name:	BRM Area 4	**Depth:**	1.20-6.00m
Client:	Britannia Refined Metals Ltd		

Window Sample Photograph



CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	WS106
Contract Name:	BRM Area 4	**Depth:**	0.00-1.20m
Client:	Britannia Refined Metals Ltd		

Inspection Pit Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Hole ID:**	HP101
Contract Name:	BRM Area 4	**Depth:**	0.00-0.30m
Client:	Britannia Refined Metals Ltd		

Inspection Pit Photograph

CC Ground Investigations Ltd			
Contract ID:	C7644	**Hole ID:**	HP102
Contract Name:	BRM Area 4	**Depth:**	0.00-0.50m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP101
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP101
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP101
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP102
Contract Name:	BRM Area 4	**Depth:**	0.00-3.70m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP102
Contract Name:	BRM Area 4	**Depth:**	0.00-3.70m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP102
Contract Name:	BRM Area 4	**Depth:**	0.00-3.70m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP103
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP103
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP103
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP104
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP104
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

Trial Pit Photograph

CC Ground Investigations Ltd

Contract ID:	C7644	**Hole ID:**	TP104
Contract Name:	BRM Area 4	**Depth:**	0.00-4.00m
Client:	Britannia Refined Metals Ltd		

APPENDIX D

Geotechnical Laboratory Test Results

LABORATORY REPORT

4043

Contract Number: PSL22/5108

Report Date: 17 August 2022

Client's Reference: C7644

Client Name: CC Ground Investigations Ltd
Unit A2 Innsworth Technology Park.
Innsworth Lane
Gloucester
GL3 1DL

For the attention of: Richard Tucker

Contract Title: BRM Area 4

Date Received: 4/8/2022
Date Commenced: 4/8/2022
Date Completed: 17/08/2022

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)

M Fennell (Senior Technician)

5 – 7 Hexthorpe Road, Hexthorpe,
Doncaster DN4 0AR
tel: +44 (0)844 815 6641
fax: +44 (0)844 815 6642
e-mail: 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
TP101		B	1.70	2.00	Grey mottled brown slightly gravelly sandy organic CLAY.
TP101		B	3.70	4.00	Grey mottled brown slightly gravelly sandy organic CLAY.
TP102		B	3.40	3.70	Brown slightly gravelly sandy organic CLAY.
TP103		B	1.70	2.00	MADE GROUND brown very sandy very clayey gravel with some organic material.
TP103		B	3.00	3.20	Brown slightly gravelly slightly sandy CLAY with some organic material.
WS103		SPT	2.00	2.45	Brown slightly gravelly clayey very silty SAND with some organic material.
WS103		B	3.00	4.00	Brown slightly gravelly clayey very silty SAND with some organic material.
WS103		B	5.00	6.00	Brown mottled grey slightly gravelly very sandy organic CLAY.

SUMMARY OF SOIL CLASSIFICATION TESTS

(BS1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Top Depth m	Base Depth m	Moisture Content % Clause 3.2	Linear Shrinkage % Clause 6.5	Particle Density Mg/m^3 Clause 8.2	Liquid Limit % Clause 4.3/4	Plastic Limit % Clause 5.3	Plasticity Index % Clause 5.4	Passing .425mm %	Remarks
TP101		B	1.70	2.00	97			92	38	54	100	Extremely High Plasticity CE
TP102		B	3.40	3.70	75			103	38	65	100	Extremely High Plasticity CE
TP103		B	3.00	3.20	46			57	29	28	100	High Plasticity CH
WS103		B	3.00	4.00	45			100	40	60	100	Extremely High Plasticity CE

SYMBOLS : **NP : Non Plastic** *** : Liquid Limit and Plastic Limit Wet Sieved.**

UKAS TESTING 4043

PSL Professional Soils Laboratory

BRM Area 4

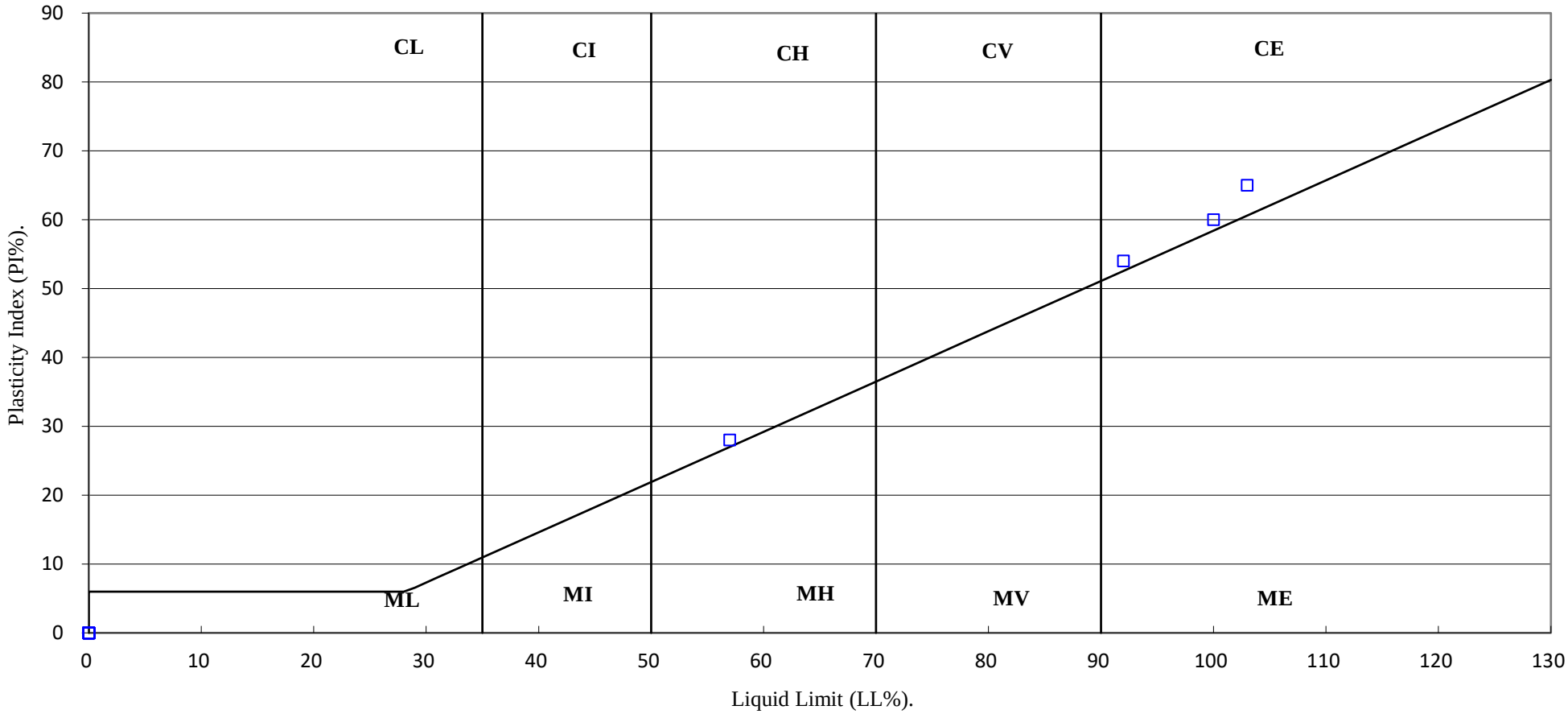
Contract No:

PSL22/5108

Client Ref:

C7644

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.



UKAS TESTING 4043	PSL Professional Soils Laboratory	BRM Area 4	Contract No: PSL22/5108 Client Ref: C7644

PARTICLE SIZE DISTRIBUTION TEST

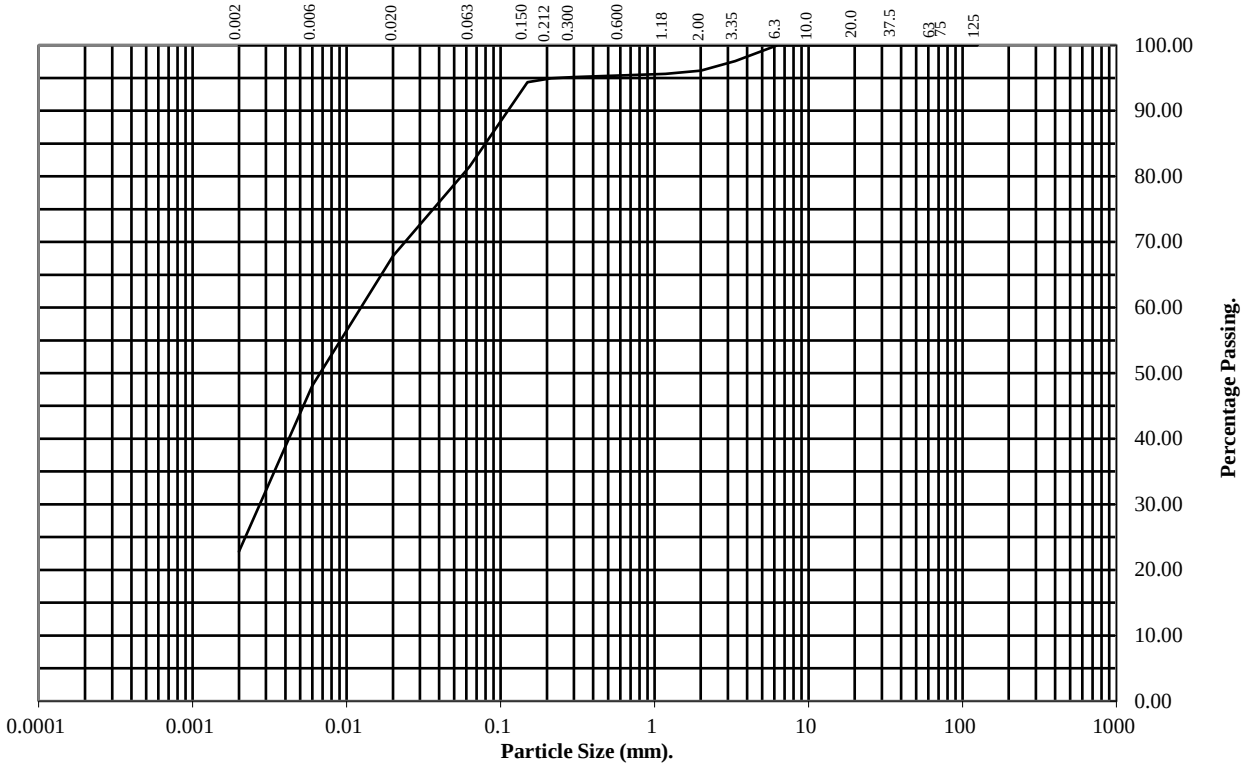
BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number: **TP101** **Top Depth (m):** **3.70**

Sample Number: **Base Depth(m):** **4.00**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	98
2	96
1.18	96
0.6	95
0.3	95
0.212	95
0.15	94
0.063	82

Particle Diameter	Percentage Passing
0.02	68
0.006	48
0.002	23

Soil Fraction	Total Percentage
Cobbles	0
Gravel	4
Sand	14
Silt	59
Clay	23

Remarks:

See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

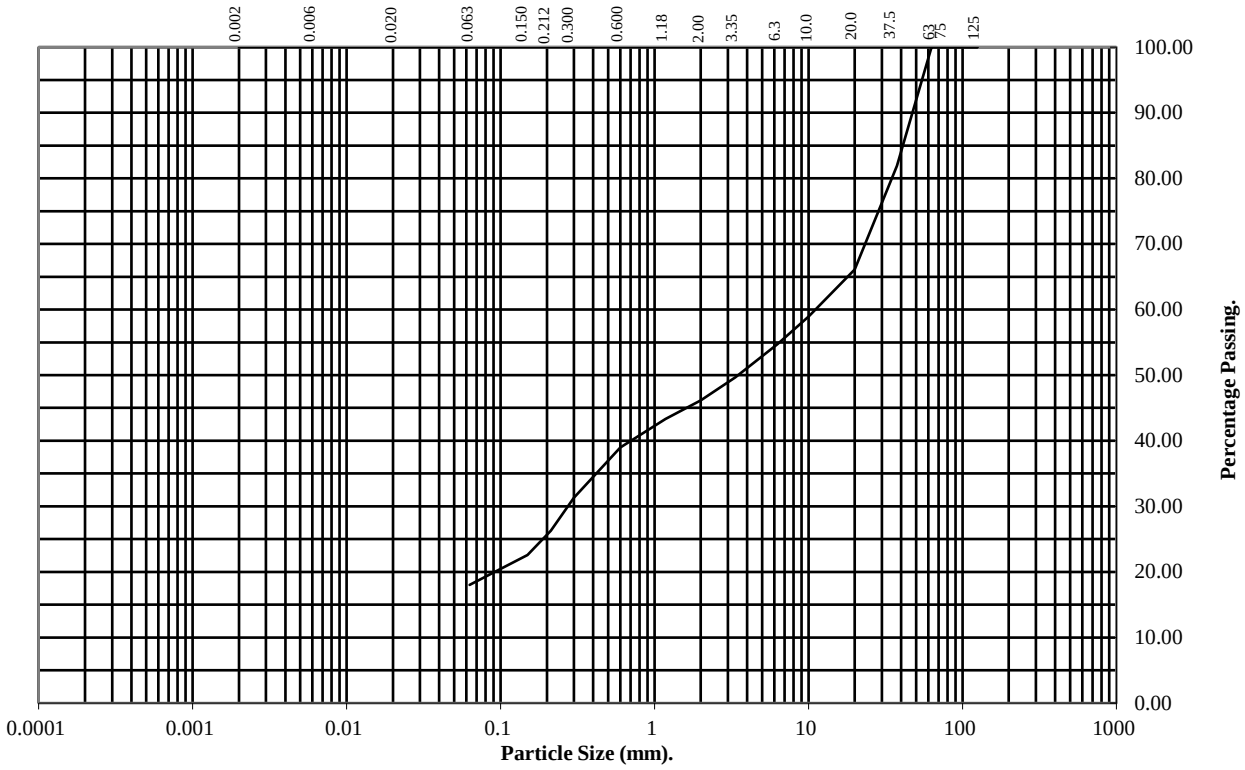
BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: **TP103** **Top Depth (m):** **1.70**

Sample Number: **Base Depth(m):** **2.00**

Sample Type: **B**



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	82
20	66
10	59
6.3	55
3.35	50
2	46
1.18	43
0.6	39
0.3	31
0.212	26
0.15	23
0.063	18

Soil Fraction	Total Percentage
Cobbles	0
Gravel	54
Sand	28
Silt/Clay	18

Remarks:

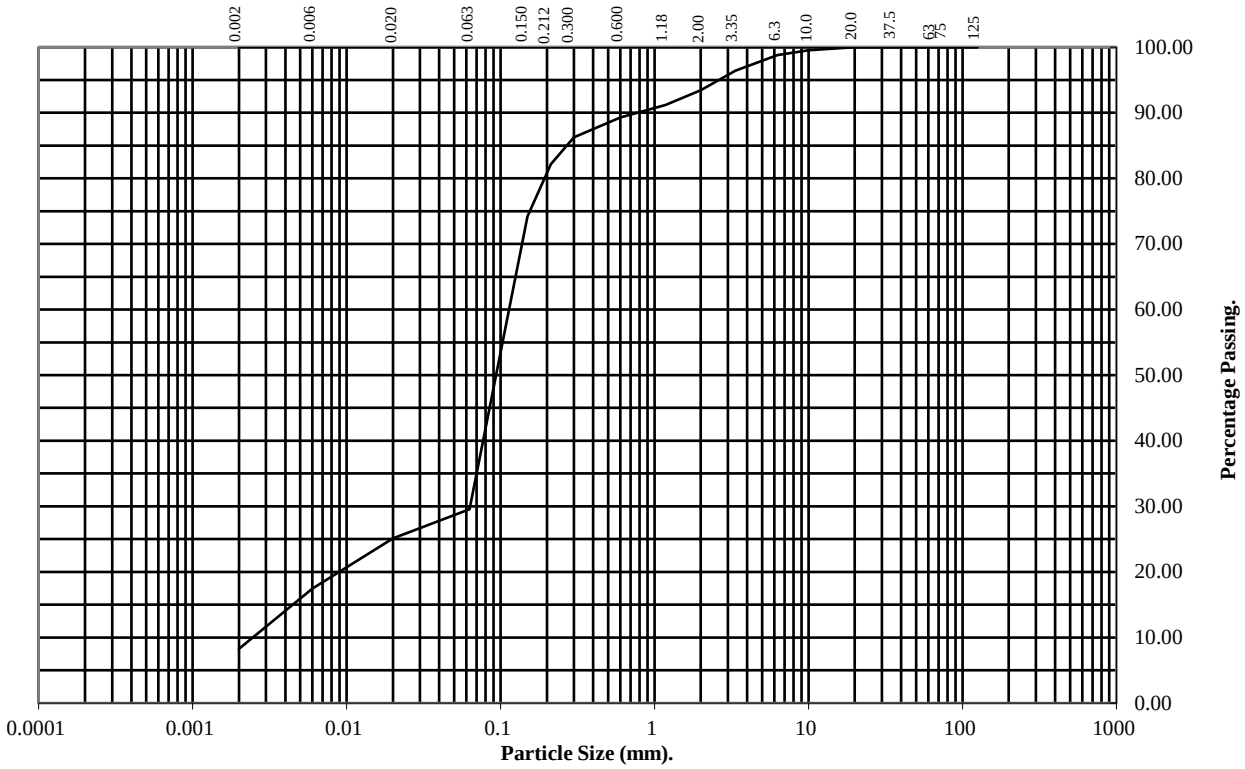
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**WS103**	**Top Depth (m):**	**2.00**
Sample Number:		**Base Depth(m):**	**2.45**
Sample Type:	**SPT**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	99
3.35	96
2	93
1.18	91
0.6	89
0.3	86
0.212	82
0.15	74
0.063	30

Particle Diameter	Percentage Passing
0.02	25
0.006	17
0.002	8

Soil Fraction	Total Percentage
Cobbles	0
Gravel	7
Sand	63
Silt	22
Clay	8

Remarks:

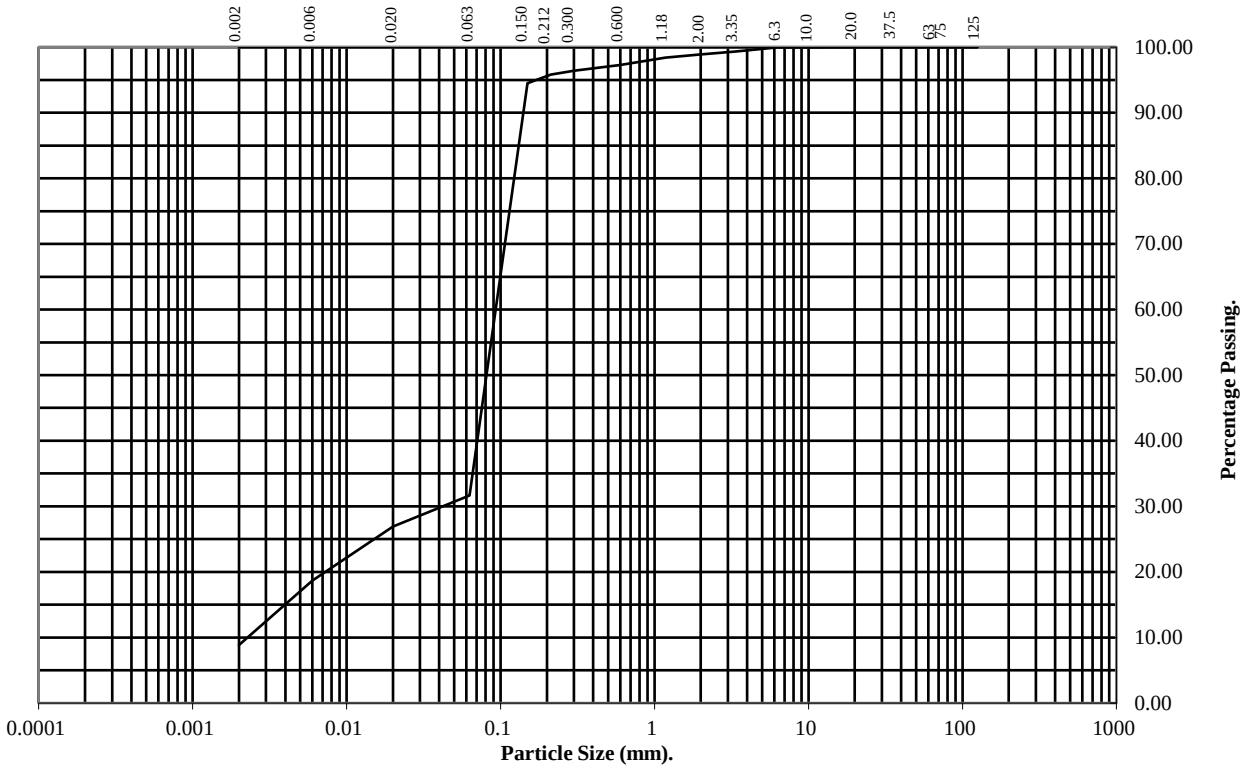
See Summary of Soil Descriptions

PARTICLE SIZE DISTRIBUTION TEST

BS1377 : Part 2 : 1990

Wet Sieve & Pipette Analysis, Clause 9.2 & 9.4

Hole Number:	**WS103**	**Top Depth (m):**	**5.00**
Sample Number:		**Base Depth(m):**	**6.00**
Sample Type:	**B**		



BS Test Sieve (mm)	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	100
3.35	99
2	99
1.18	98
0.6	97
0.3	96
0.212	96
0.15	94
0.063	32

Particle Diameter	Percentage Passing
0.02	27
0.006	19
0.002	9

Soil Fraction	Total Percentage
Cobbles	0
Gravel	1
Sand	67
Silt	23
Clay	9

Remarks:

See Summary of Soil Descriptions

Certificate of Analysis

Certificate Number 22-15849 *Issued:* 19-Aug-22

Client Professional Soils Laboratory Ltd
5/7 Hexthorpe Road
Hexthorpe
DN4 0AR

Our Reference 22-15849

Client Reference PSL22/5108

Order No (not supplied)

Contract Title BRM Area 4

Description 4 Soil samples.

Date Received 15-Aug-22

Date Started 15-Aug-22

Date Completed 19-Aug-22

Test Procedures Identified by prefix DETSn (details on request).

Notes Opinions and interpretations are outside the laboratory's scope of ISO 17025 accreditation. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced except in full, without the prior written approval of the laboratory.

Approved By

Kirk Bridgewood
General Manager

2139

Summary of Chemical Analysis
Soil Samples

Our Ref 22-15849
Client Ref PSL22/5108
Contract Title BRM Area 4

	Lab No	2045704	2045705	2045706	2045707
	.Sample ID	TP101	TP102	TP103	WS103
	Depth	3.00	3.50	3.10	3.00-4.00
	Other ID				
	Sample Type	B	B	D	B
	Sampling Date	n/s	n/s	n/s	n/s
	Sampling Time	n/s	n/s	n/s	n/s
Test	**Method**	**LOD**	**Units**		
Metals					
Magnesium Aqueous Extract	DETSC 2076*	10	mg/l	77	110	33	99
Inorganics					
pH	DETSC 2008#		pH	7.9	7.8	7.9	7.9
Organic matter	DETSC 2002#	0.1	%	5.4		4.0	
Chloride Aqueous Extract	DETSC 2055	1	mg/l	1100	1000	48	890
Nitrate Aqueous Extract as NO3	DETSC 2055	1	mg/l	< 1.0	< 1.0	< 1.0	2.8
Sulphate Aqueous Extract as SO4	DETSC 2076#	10	mg/l	780	1100	430	1000
Sulphur as S, Total	DETSC 2320	0.01	%	0.46	0.68	0.34	0.31
Sulphate as SO4, Total	DETSC 2321#	0.01	%	0.34	0.51	0.27	0.41

Key: * -not accredited. # -MCERTS (accreditation only applies if report carries the MCERTS logo). n/s -not supplied.

Information in Support of the Analytical Results

Our Ref 22-15849
Client Ref PSL22/5108
Contract BRM Area 4

Containers Received & Deviating Samples

Lab No	Sample ID	Date Sampled	Containers Received	Holding time exceeded for tests	Inappropriate container for tests
2045704	TP101 3.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), Organic Matter (Manual) (28 days), pH + Conductivity (7 days)	
2045705	TP102 3.50 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	
2045706	TP103 3.10 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), Organic Matter (Manual) (28 days), pH + Conductivity (7 days)	
2045707	WS103 3.00-4.00 SOIL		PT 1L	Sample date not supplied, Anions 2:1 (30 days), Total Sulphur ICP (7 days), Total Sulphate ICP (30 days), Metals ICP Prep (182 days), pH + Conductivity (7 days)	

Key: P-Plastic T-Tub

DETS cannot be held responsible for the integrity of samples received whereby the laboratory did not undertake the sampling. In this instance samples received may be deviating. Deviating Sample criteria are based on British and International standards and laboratory trials in conjunction with the UKAS note 'Guidance on Deviating Samples'. All samples received are listed above. However, those samples that have additional comments in relation to hold time, inappropriate containers etc are deviating due to the reasons stated. This means that the analysis is accredited where applicable, but results may be compromised due to sample deviations. If no sampled date (soils) or date+time (waters) has been supplied then samples are deviating. However, if you are able to supply a sampled date (and time for waters) this will prevent samples being reported as deviating where specific hold times are not exceeded and where the container supplied is suitable.

Soil Analysis Notes

Inorganic soil analysis was carried out on a dried sample, crushed to pass a 425µm sieve, in accordance with BS1377.
Organic soil analysis was carried out on an 'as received' sample. Organics results are corrected for moisture and expressed on a dry weight basis.
The Loss on Drying, used to express organics analysis on an air dried basis, is carried out at a temperature of 28°C +/-2°C.

Disposal

From the issue date of this test certificate, samples will be held for the following times prior to disposal :-
Soils - 1 month, Liquids - 2 weeks, Asbestos (test portion) - 6 months

End of Report

APPENDIX E

SPT Calibration Certificate

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005 +A1:2011

James and Milton Drilling Ltd
63 Fakenham Road
Great Ryburgh
NR21 7AW

SPT Hammer Ref:	CC04
Test Date:	26/02/2022
Report Date:	01/03/2022
File Name:	CC04.spt
Test Operator:	RW

Instrumented Rod Data

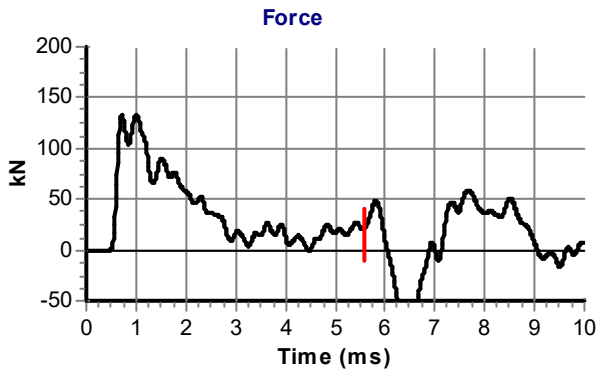
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	63177
Accelerometer No.2:	63178

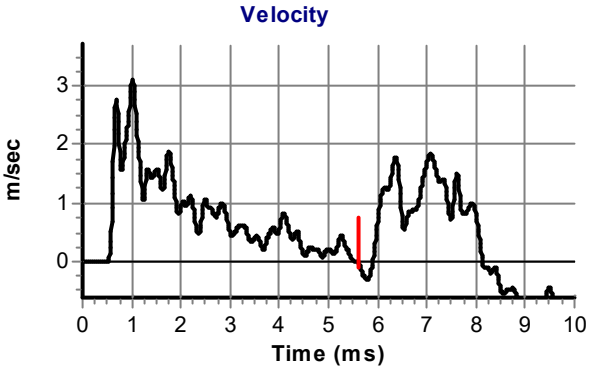
SPT Hammer Information

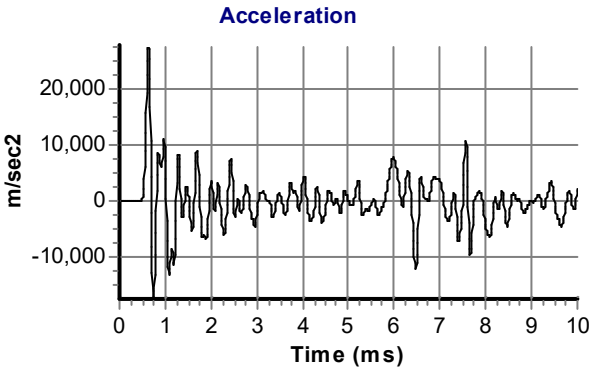
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	13.7

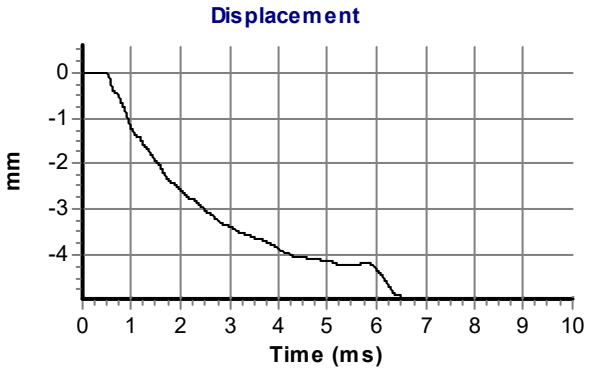
Comments / Location

CC YARD









Calculations

Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	306

Energy Ratio E_r (%): **65**

Signed: Richard Walter BEng (Hons)

Title: Drilling Manager (J&M Drilling Ltd)

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005 +A1:2011

James and Milton Drilling Ltd
63 Fakenham Road
Great Ryburgh
NR21 7AW

SPT Hammer Ref:	CC17
Test Date:	26/02/2022
Report Date:	01/03/2022
File Name:	CC17.spt
Test Operator:	RW

Instrumented Rod Data

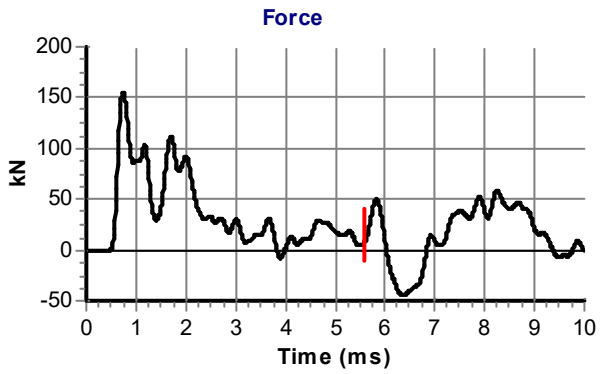
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	63177
Accelerometer No.2:	63178

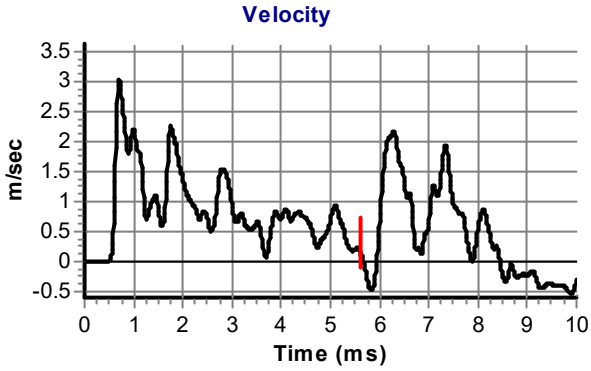
SPT Hammer Information

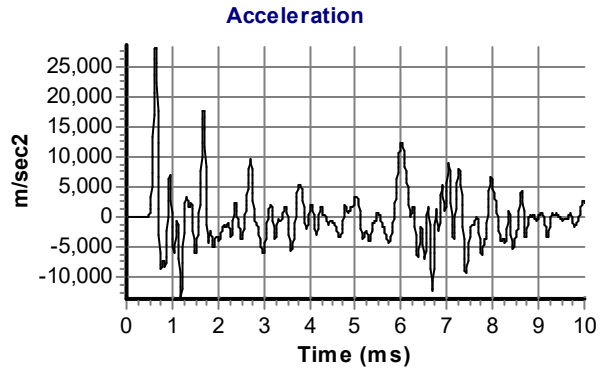
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	13.7

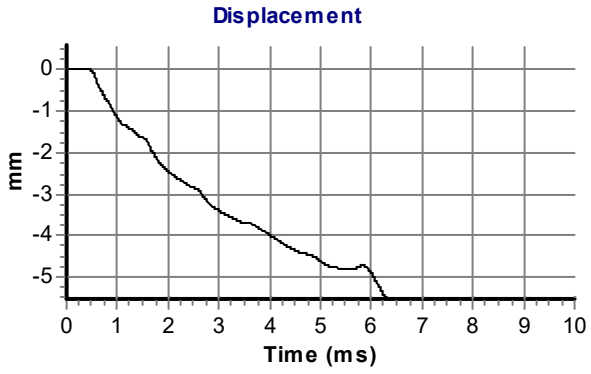
Comments / Location

CC YARD









Calculations

Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	301

Energy Ratio E_r (%): **64**

Signed: Richard Walter BEng (Hons)
Title: Drilling Manager (J&M Drilling Ltd)

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005 +A1:2011

James and Milton Drilling Ltd
63 Fakenham Road
Great Ryburgh
NR21 7AW

SPT Hammer Ref:	T06
Test Date:	26/02/2022
Report Date:	01/03/2022
File Name:	T06.spt
Test Operator:	RW

Instrumented Rod Data

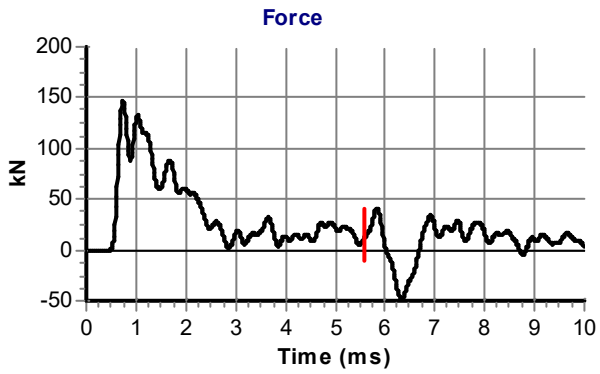
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	63177
Accelerometer No.2:	63178

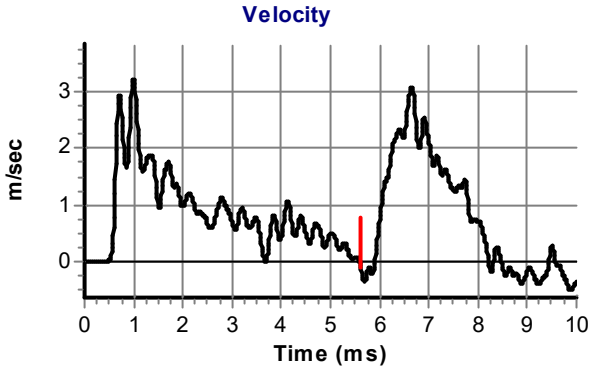
SPT Hammer Information

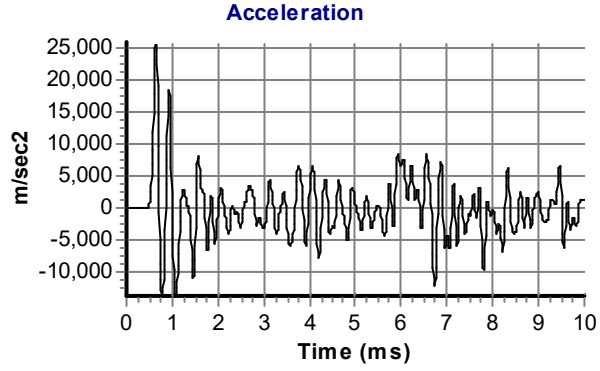
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	13.7

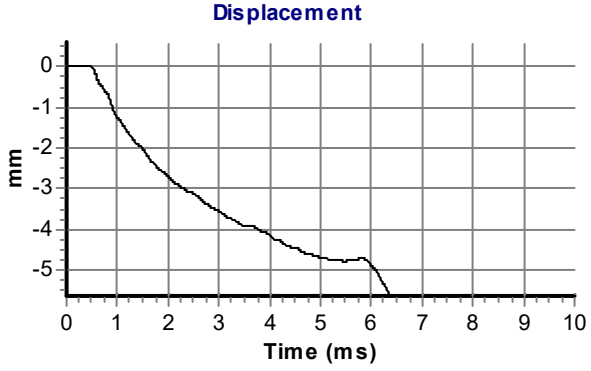
Comments / Location

CC YARD









Calculations

Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	320

Energy Ratio E_r (%): **68**

Signed: Richard Walter BEng (Hons)
Title: Drilling Manager (J&M Drilling Ltd)

SPT Hammer Energy Test Report

in accordance with BSEN ISO 22476-3:2005

James and Milton Drilling Ltd
63 Fakenham Road
Great Ryburgh
NR21 7AW

SPT Hammer Ref:	T08SH
Test Date:	17/05/2022
Report Date:	17/05/2022
File Name:	T08SH.spt
Test Operator:	ML

Instrumented Rod Data

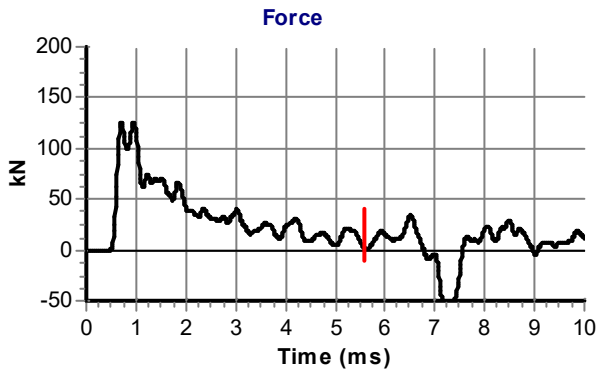
Diameter d_r (mm):	54
Wall Thickness t_r (mm):	6.6
Assumed Modulus E_a (GPa):	208
Accelerometer No.1:	63177
Accelerometer No.2:	63178

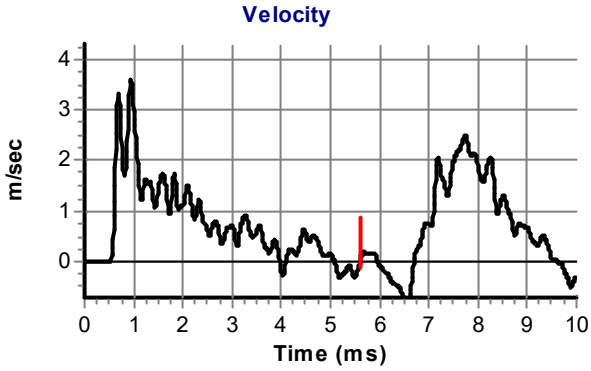
SPT Hammer Information

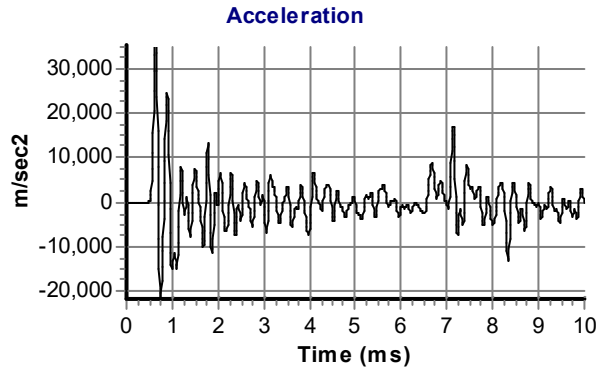
Hammer Mass m (kg):	63.5
Falling Height h (mm):	760
SPT String Length L (m):	13.8

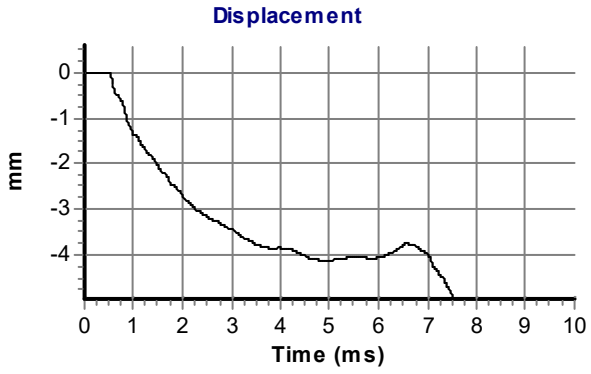
Comments / Location

JM YARD









Calculations

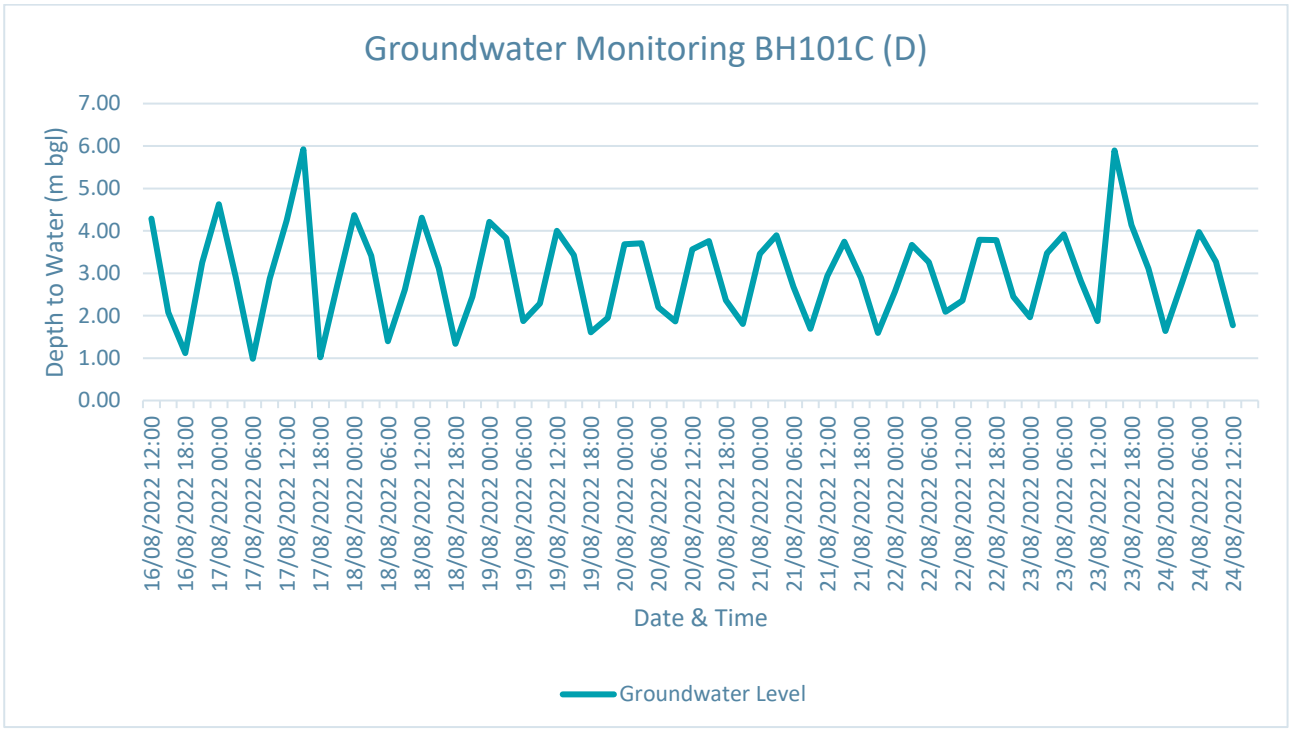
Area of Rod A (mm2):	983
Theoretical Energy E_{theor} (J):	473
Measured Energy E_{meas} (J):	292

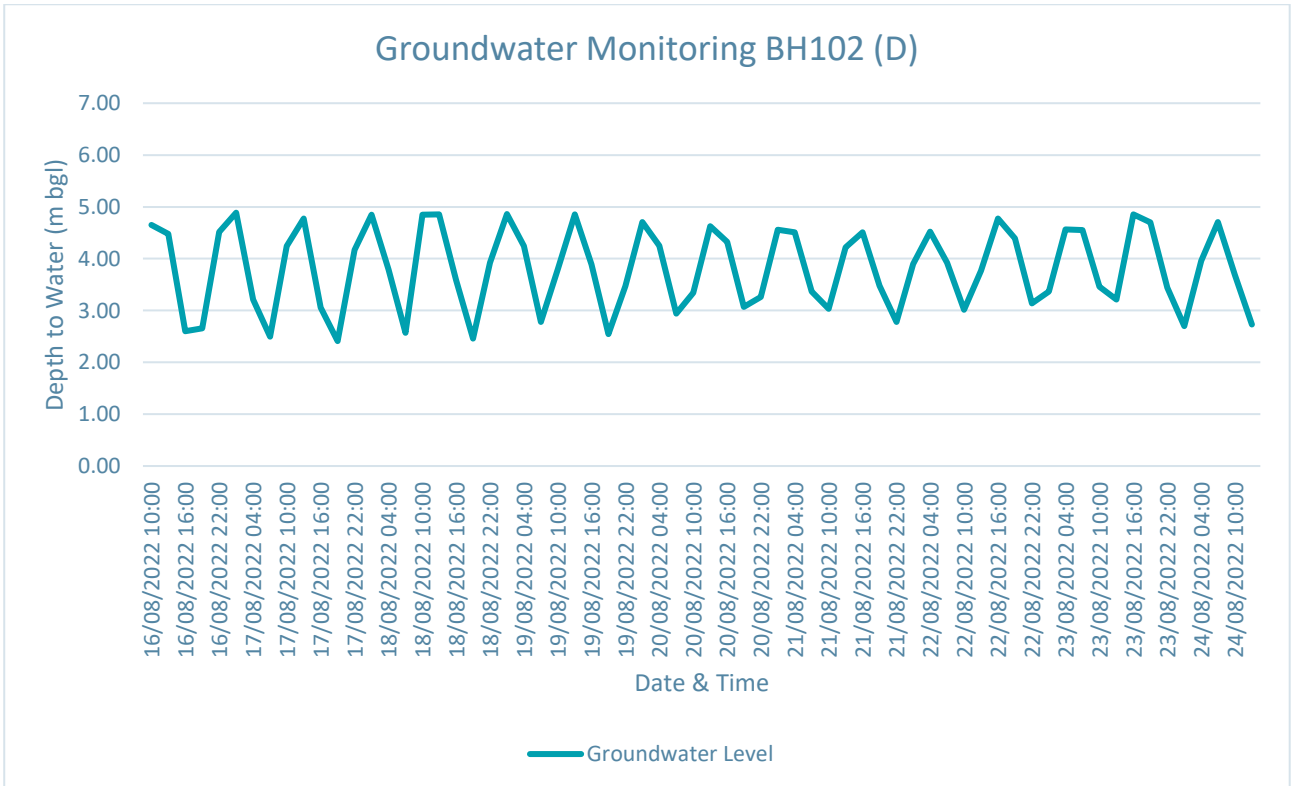
Energy Ratio E_r (%): **62**

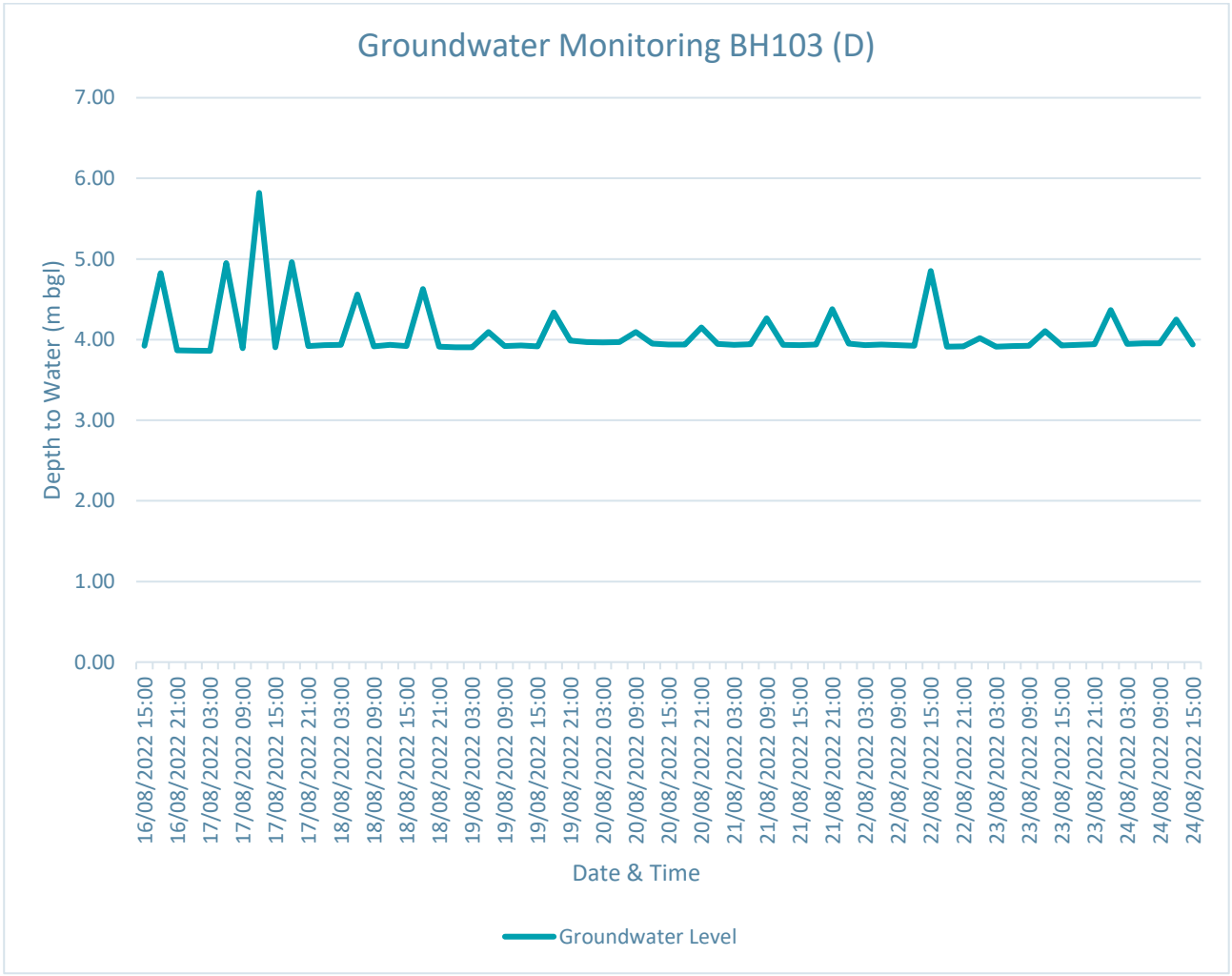
Signed: Mark Lane

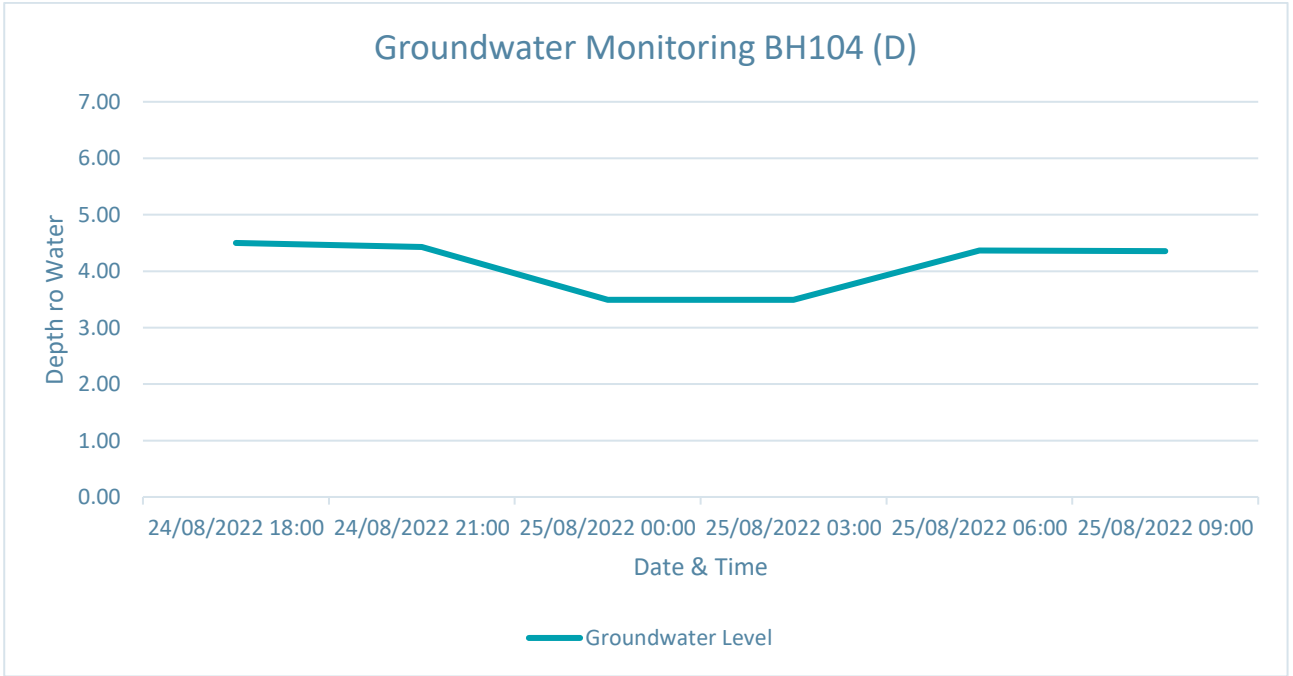
Title: Operations Manager

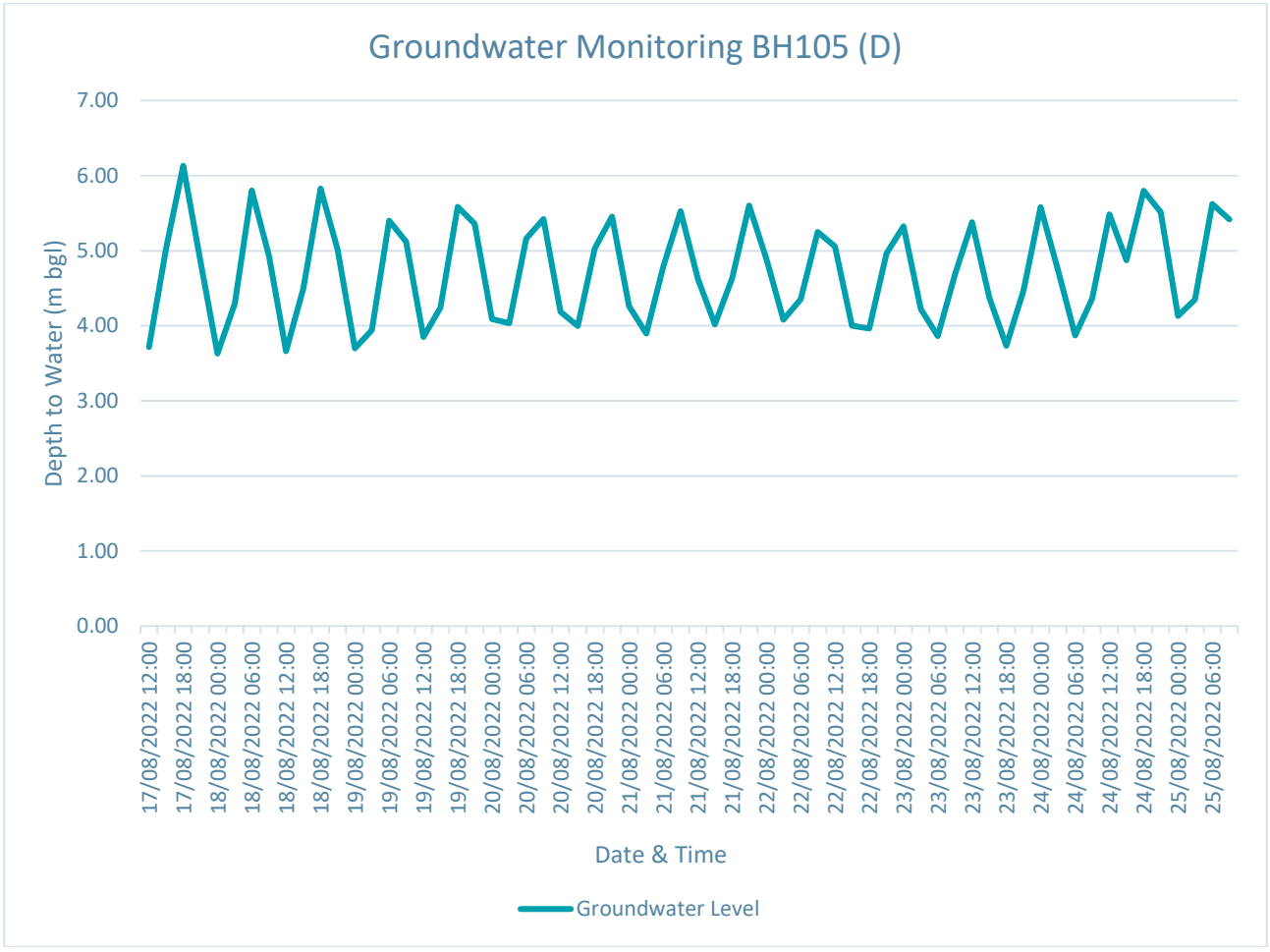
Appendix B Groundwater monitoring data











Appendix C
Gas monitoring data

BS8485:2015 / CIRIA C665 Characteristic situation: Situation A - All development types except those in Situation B

Project Number:	852504	Site:	BRM	Zone:	N/A

	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6	Round 7	Round 8	Round 9	Round 10	Round 11	Round 12	Round 13	Round 14	Round 15	Round 16	Round 17	Round 18	Round 19
Monitoring Dates	11/08/2022	17/08/2022	19/08/2022	25/08/2022	To be completed	To be completed													
l atmospheric pressure	1016	1010	1013	1017															
l atmospheric pressure	1017	1012	1013	1017															
Low Pressure (<1000mbar)	N	N	N	N															
Falling Pressure?	N	N	N	N															

Monitoring Point	Number of rounds	Flow Rate (Peak positive or negative)	Flow Rate (Steady)	Methane (Peak)	Methane (Steady)	Carbon Dioxide (Peak)	Carbon Dioxide (Steady)	Oxygen (lowest value)	Oxygen (lowest steady)	Carbon Monoxide	Hydrogen Sulphide	Groundwater level	Methane GSV	Carbon Dioxide GSV	Characteristic situation based on Steady readings				VOC
		(l/hr)	(l/hr)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(%v/v)	(ppm)	(ppm)	(m bgl)	(l/hr CH4)	(l/hr CO2)	Methane CS	Carbon dioxide CS	Comments on methane CS	Comments on carbon dioxide CS	Direct measurement - steady (ppm)
WS101(s)	3	0 to 46	0	8.3 to 11.8	8.1 to 11.6	5.6 to 5.8	5.3 to 5.6	7.8 to 9.5	14.7 to 19.7	<0.1	<0.1	Dry	0.0116	0.0056	**CS-2***	**CS-2***	*Typical maximum concentration exceeded - assumed CS-2	*Typical maximum concentration exceeded - assumed CS-2	0.1 to 1.2
WS101 (d)	4	0 to 12.6	0	54.5 to 79.4	54.5 to 79.3	8.2 to 20.9	6.6 to 20.9	0.0001 to 6.6	0.0001 to 7.1	<0.1 to 90	<0.1	1.07 to 1.2	0.0793	0.0209	**CS-2**	**CS-2***		*Typical maximum concentration exceeded - assumed CS-2	0.5 to 0.9
WS102(s)	4	0 to 1.5	0	5.3 to 15.8	4.9 to 15.8	8 to 12.2	7.5 to 10	6.4 to 9.8	6.4 to 11.7	<0.1 to 10	<0.1	1.03 to 1.11	0.0158	0.01	**CS-2***	**CS-2***	*Typical maximum concentration exceeded - assumed CS-2	*Typical maximum concentration exceeded - assumed CS-2	0.1 to 1.1
WS102(d)	1	0	0	1.3	0.1	0.9 to 1.3	0.4 to 0.5	19.2 to 19.4	19.9 to 20.6	<0.1	<0.1	1 to 1.04	0.0001	0.0005	**CS-1**	**CS-1**			0.5 to 1.4
WS103	4	0	0	<0.1	<0.1	2.7 to 4.6	2.6 to 4.6	14 to 18.1	14 to 18.3	<0.1	<0.1	Dry	0.0001	0.0046	**CS-1**	**CS-1**			0.6 to 2.1
WS104(s)	4	0	0	<0.1 to 1	<0.1	0.3 to 1.6	0.2 to 1.6	17.6 to 18.6	17.6 to 18.7	<0.1	<0.1	Dry	0.0001	0.0016	**CS-1**	**CS-1**			0.3 to 2.1
WS104(d)	4	0	0	1.1 to 5	<0.1 to 1.3	2.4 to 3.3	0.8 to 1.3	17 to 18.5	19.4 to 19.9	<0.1	<0.1	2.2 to 2.35	0.0013	0.0013	**CS-2***	**CS-1**	*Typical maximum concentration exceeded - assumed CS-2		0.6 to 1.9
WS105(s)	4	0	0	<0.1 to 0.6	<0.1 to 0.01	2.2 to 2.8	1.8 to 2.5	12.1 to 18.4	16.9 to 18.4	<0.1	<0.1	Dry	0.00001	0.0025	**CS-1**	**CS-1**			0.3 to 1.9
WS105(d)	4	0	0	<0.1 to 7.1	<0.1 to 6.7	4.1 to 12.4	4.3 to 11.7	7.4 to 14.2	7.4 to 14.4	<0.1	<0.1	2.5 to 2.73	0.0067	0.0117	**CS-2***	**CS-2***	*Typical maximum concentration exceeded - assumed CS-2	*Typical maximum concentration exceeded - assumed CS-2	0.2 to 2.3
WS106	4	0	0	<0.1	<0.1	0.7 to 0.9	0.7 to 0.8	19 to 20.3	19.6 to 20.5	<0.1	<0.1	Dry	0.0001	0.0008	**CS-1**	**CS-1**			1.1 to 4.1
BH101(s)												3.8 to 5.25							
BH101(d)												2.8 to 5.78							
BH102(s)												4.5 to 4.87							
BH102(d)												2.83 to 5.43							
BH103(s)	2	0	0	42.1 to 80	27.4 to 77.9	10 to 22	6.6 to 22	0.0001 to 8.4	0.0001 to 12.6	10	<0.1	1.4 to Dry	0.0779	0.022	**CS-2**	**CS-2***		*Typical maximum concentration exceeded - assumed CS-2	0.1
BH103(d)												1.47 to 5.82							
BH104(s)												4.96							
BH104(d)												2.26							
BH105(s)												2.51 to 2.75							
BH105(d)												4.22 to 5.77							
End																			

Appendix D
Laboratory certificates of analysis

Ed Gilligan
Wood Environment & Infrastructure Solutions
Floor 4
60 London Wall
London
EC2M 5TQ

e: ed.gilligan@amecfw.com

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 22-72247

Replaces Analytical Report Number: 22-72247, issue no. 3
Report format change.

Project / Site name:	BRM Area 4 GI	**Samples received on:**	15/07/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	19/07/2022
Your order number:	TBC	**Analysis completed by:**	04/08/2022
Report Issue Number:	4	**Report issued on:**	26/08/2022
Samples Analysed:	26 soil samples		

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355307	2355308	2355309	2355310	2355311
Sample Reference				HP101	HP102	BH101A	BH101C	BH102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022
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	68	76	< 0.1	< 0.1	48
Moisture Content	%	0.01	NONE	0.94	6.6	15	24	4.2
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.6	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected	-	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	SZS	N/A	SZS
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	9.5	7.9	8.6	7.9	9
Total Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	0.5	4.7	3.4
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	0.25
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.27	0.34
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.46	0.33
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.2	0.41
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.3	3
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.4	0.9
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.48	7	5.9
Pyrene	mg/kg	0.05	MCERTS	-	-	0.48	5.5	5.2
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.5	3.3
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.4	2.8
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	3	4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.9	1.7
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.2	3.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.3	1.8
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	0.49
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.7	2.3
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	0.96	36.2	36.2

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Lab Sample Number				2355307	2355308	2355309	2355310	2355311
Sample Reference				HP101	HP102	BH101A	BH101C	BH102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	11	39	580
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	8.5	46	100
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	1.2	4.9	11
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	0.7	5.1	7
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	< 1.8	U/S
Chromium (III)	mg/kg	1	NONE	-	-	36	91	U/S
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	36	91	33
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	28	130	510
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	150	490	7700
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	0.3	3.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	9.8	45	87
Silver (aqua regia extractable)	mg/kg	1	NONE	-	-	2.1	6.3	35
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	4.1	25	120
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	100	520	3600
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	8.2	< 1.0	< 1.0	6.1	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	30	7.1	6.7	40	5.4
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	69	10	15	94	13
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	130	77	55	230	100
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	240	94	77	370	120
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	21	5.8	< 2.0	8.2	3.1
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	130	15	< 10	62	16
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	310	58	16	150	130
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	460	79	22	220	150

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Lab Sample Number				2355307	2355308	2355309	2355310	2355311
Sample Reference				HP101	HP102	BH101A	BH101C	BH102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-

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Your Order No: TBC

Lab Sample Number				2355307	2355308	2355309	2355310	2355311
Sample Reference				HP101	HP102	BH101A	BH101C	BH102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-

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Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355307	2355308	2355309	2355310	2355311
Sample Reference				HP101	HP102	BH101A	BH101C	BH102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.27	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.46	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.2	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.3	-
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.4	-
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.48	7	-
Pyrene	mg/kg	0.05	MCERTS	-	-	0.48	5.5	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.5	-
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.4	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	3	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.9	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.2	-

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Your Order No: TBC

Lab Sample Number				2355307	2355308	2355309	2355310	2355311
Sample Reference				HP101	HP102	BH101A	BH101C	BH102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.3	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.7	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-72247
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Your Order No: TBC

Lab Sample Number				2355312	2355313	2355314	2355315	2355316
Sample Reference				BH102	BH103	BH103	BH104	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.90	0.40	1.00	0.40	0.90
Date Sampled				15/07/2022	12/07/2022	12/07/2022	13/07/2022	13/07/2022
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	26	36	< 0.1	40	< 0.1
Moisture Content	%	0.01	NONE	18	6.2	14	5.2	8.8
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	Anthophyllite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	0.018
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	-	-	-	-	0.002
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	-	-	-	-	0.02
Asbestos Analyst ID	N/A	N/A	N/A	SZS	SZS	SZS	SZS	MWI
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.7	9.5	8.2	9.2	8.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.6	2.4	0.9	1.6	1.4
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.29	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.27	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.2	< 0.05	0.22	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.21	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.24	1.4	< 0.05	2.6	1.9
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.51	< 0.05	0.59	0.65
Fluoranthene	mg/kg	0.05	MCERTS	0.36	3.6	1.2	4.9	4
Pyrene	mg/kg	0.05	MCERTS	0.38	3.3	1.1	4.2	3.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.12	2	0.53	3	2.2
Chrysene	mg/kg	0.05	MCERTS	0.21	1.9	0.83	2.4	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	2.8	0.72	3.3	1.8
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	1.3	0.55	1.4	1.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	2.5	0.71	2.8	2.1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.3	0.33	1.4	0.99
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.34	< 0.05	0.42	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	1.7	0.44	1.8	1.3
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1.31	23.3	6.37	29.3	21.3

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Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355312	2355313	2355314	2355315	2355316
Sample Reference				BH102	BH103	BH103	BH104	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.90	0.40	1.00	0.40	0.90
Date Sampled				15/07/2022	12/07/2022	12/07/2022	13/07/2022	13/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	6.3	27	27	850	83
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.7	18	16	140	41
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	2.7	4.5	3.4	39
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.4	1.7	11	1.9
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	U/S	< 1.8
Chromium (III)	mg/kg	1	NONE	11	24	23	U/S	29
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	12	25	23	28	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	19	44	41	270	57
Lead (aqua regia extractable)	mg/kg	1	MCERTS	64	540	490	22000	1300
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	0.5	0.6	< 0.3	0.8
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	7.1	16	16	30	19
Silver (aqua regia extractable)	mg/kg	1	NONE	< 1.0	2.1	3.9	210	6.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	2.6	8.9	9.5	63	18
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	73	170	180	5000	410
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	7.1	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	10	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0	56	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10	< 10	< 10	73	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	< 10	< 10	16	13
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	25	17	68	27
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	< 10	33	24	84	39

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Your Order No: TBC

Lab Sample Number				2355312	2355313	2355314	2355315	2355316
Sample Reference				BH102	BH103	BH103	BH104	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.90	0.40	1.00	0.40	0.90
Date Sampled				15/07/2022	12/07/2022	12/07/2022	13/07/2022	13/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-

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Lab Sample Number				2355312	2355313	2355314	2355315	2355316
Sample Reference				BH102	BH103	BH103	BH104	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.90	0.40	1.00	0.40	0.90
Date Sampled				15/07/2022	12/07/2022	12/07/2022	13/07/2022	13/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-

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Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355312	2355313	2355314	2355315	2355316
Sample Reference				BH102	BH103	BH103	BH104	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.90	0.40	1.00	0.40	0.90
Date Sampled				15/07/2022	12/07/2022	12/07/2022	13/07/2022	13/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.29	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	0.4	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.22	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.6	-
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.59	-
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3	0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3	0.4	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	1.2	4.9	-
Pyrene	mg/kg	0.05	MCERTS	-	-	1.1	4.2	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	0.53	3	-
Chrysene	mg/kg	0.05	MCERTS	-	-	0.83	2.4	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	0.72	3.3	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	0.55	1.4	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	0.71	2.8	-

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355312	2355313	2355314	2355315	2355316
Sample Reference				BH102	BH103	BH103	BH104	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.90	0.40	1.00	0.40	0.90
Date Sampled				15/07/2022	12/07/2022	12/07/2022	13/07/2022	13/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	0.33	1.4	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.42	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	0.44	1.8	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355317	2355318	2355319	2355320	2355321
Sample Reference				TP101	TP101	TP101	TP102	TP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.60	1.60	0.90	0.70
Date Sampled				15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
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	39	< 0.1	37	69
Moisture Content	%	0.01	NONE	7.4	3.6	34	6.9	5.3
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.6	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	Anthophyllite	Chrysotile & Amosite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	-	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	< 0.001	< 0.001
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	-	-	-	< 0.001	< 0.001
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	-	-	-	0.001	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	SSZ	SSZ	N/A	MWI	MLO
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	10.1	11.8	11.3	9	10.5
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	3.4	1.4	-	2.2	1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	1	< 0.05	-	< 0.05	0.2
Acenaphthylene	mg/kg	0.05	MCERTS	0.58	< 0.05	-	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	6.6	< 0.05	-	< 0.05	0.36
Fluorene	mg/kg	0.05	MCERTS	6.8	< 0.05	-	< 0.05	0.35
Phenanthrene	mg/kg	0.05	MCERTS	49	0.63	-	2.1	3.5
Anthracene	mg/kg	0.05	MCERTS	18	< 0.05	-	0.49	0.83
Fluoranthene	mg/kg	0.05	MCERTS	50	1.2	-	4.8	6.7
Pyrene	mg/kg	0.05	MCERTS	46	1.3	-	4.4	5.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	29	0.62	-	2.9	3.6
Chrysene	mg/kg	0.05	MCERTS	20	0.71	-	2.1	2.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	30	0.75	-	2.6	3.7
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	8.1	0.55	-	1.6	1.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	24	0.78	-	2.6	3.2
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	10	0.33	-	1.6	2.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2.9	< 0.05	-	0.51	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	12	0.51	-	1.9	2.4
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	314	7.29	-	27.4	36.9

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Lab Sample Number				2355317	2355318	2355319	2355320	2355321
Sample Reference				TP101	TP101	TP101	TP102	TP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.60	1.60	0.90	0.70
Date Sampled				15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	18	5.6	6.4	150	200
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	23	6.4	19	94	66
Boron (water soluble)	mg/kg	0.2	MCERTS	2.1	1.4	3.4	19	12
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1	1.1	1.8	4.7	3.6
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	36	22	31	31	28
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	38	23	32	32	28
Copper (aqua regia extractable)	mg/kg	1	MCERTS	49	32	49	120	76
Lead (aqua regia extractable)	mg/kg	1	MCERTS	480	78	130	3500	3600
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	< 0.3	< 0.3	0.7	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	26	14	17	27	20
Silver (aqua regia extractable)	mg/kg	1	NONE	1.3	< 1.0	1.5	14	16
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	7.8	6.7	8.2	48	27
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	260	190	710	640
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	11	< 1.0	-	7.6	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	38	5.5	-	14	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	82	12	-	47	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	200	110	-	110	37
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	330	130	-	180	42
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	8.9	< 1.0	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	38	8.3	-	8	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	200	18	-	31	27
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	470	87	-	62	110
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	720	110	-	100	140

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Sample Reference				TP101	TP101	TP101	TP102	TP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.60	1.60	0.90	0.70
Date Sampled				15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0	-	-	-	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0

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Your Order No: TBC

Lab Sample Number				2355317	2355318	2355319	2355320	2355321
Sample Reference				TP101	TP101	TP101	TP102	TP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.60	1.60	0.90	0.70
Date Sampled				15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	< 1.0

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Lab Sample Number				2355317	2355318	2355319	2355320	2355321
Sample Reference				TP101	TP101	TP101	TP102	TP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.60	1.60	0.90	0.70
Date Sampled				15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	-	-	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	3.4	-	-	-	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	0.7	-	-	-	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	1	-	-	-	0.2
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-	-	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	2.1	-	-	-	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	0.58	-	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	6.6	-	-	-	0.36
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	6.3	-	-	-	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	-	-	-	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Fluorene	mg/kg	0.05	MCERTS	6.8	-	-	-	0.35
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	49	-	-	-	3.5
Anthracene	mg/kg	0.05	MCERTS	18	-	-	-	0.83
Carbazole	mg/kg	0.3	MCERTS	5.3	-	-	-	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	5	-	-	-	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	50	-	-	-	6.7
Pyrene	mg/kg	0.05	MCERTS	46	-	-	-	5.7
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	-	-	-	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	29	-	-	-	3.6
Chrysene	mg/kg	0.05	MCERTS	20	-	-	-	2.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	30	-	-	-	3.7
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	8.1	-	-	-	1.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	24	-	-	-	3.2

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355317	2355318	2355319	2355320	2355321
Sample Reference				TP101	TP101	TP101	TP102	TP103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.60	1.60	0.90	0.70
Date Sampled				15/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	10	-	-	-	2.1
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	2.9	-	-	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	12	-	-	-	2.4

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355322	2355323	2355324	2355325	2355326
Sample Reference				TP104	WS101	WS101	WS102	WS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	0.50	1.00	0.50	1.00
Date Sampled				15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
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	50	< 0.1	78	< 0.1
Moisture Content	%	0.01	NONE	33	2	20	1.6	16
Total mass of sample received	kg	0.001	NONE	0.6	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	< 0.001	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	JSW	LFT	LFT	LFT	LFT
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.5	8.8	8.1	9	8.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.9	0.4	0.5	0.3	1.3
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	1.1	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.33	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.52	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.43	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	2.8	< 0.05	< 0.05	0.33	0.93
Anthracene	mg/kg	0.05	MCERTS	0.84	< 0.05	< 0.05	< 0.05	0.55
Fluoranthene	mg/kg	0.05	MCERTS	5.6	< 0.05	0.34	0.73	3.1
Pyrene	mg/kg	0.05	MCERTS	4.8	< 0.05	0.39	0.74	2.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.4	< 0.05	0.2	0.29	1.5
Chrysene	mg/kg	0.05	MCERTS	2.6	< 0.05	0.25	0.45	1.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.9	< 0.05	< 0.05	0.3	0.83
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.8	< 0.05	< 0.05	0.24	0.79
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.6	< 0.05	< 0.05	0.38	1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.2	< 0.05	< 0.05	< 0.05	0.37
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.56	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.6	< 0.05	< 0.05	< 0.05	0.54
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	37	< 0.80	1.18	3.46	13.4

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Lab Sample Number				2355322	2355323	2355324	2355325	2355326
Sample Reference				TP104	WS101	WS101	WS102	WS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	0.50	1.00	0.50	1.00
Date Sampled				15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	29	3.8	3	11	11
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	33	4.2	10	6.6	8.5
Boron (water soluble)	mg/kg	0.2	MCERTS	38	0.5	0.4	0.7	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3	0.3	0.5	0.4	0.4
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	50	13	12	7.7	11
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	52	13	13	8.6	12
Copper (aqua regia extractable)	mg/kg	1	MCERTS	73	12	10	18	10
Lead (aqua regia extractable)	mg/kg	1	MCERTS	450	52	34	120	67
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	2.2	< 0.3	0.5	0.4	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	31	6.5	7.5	5.9	6.2
Silver (aqua regia extractable)	mg/kg	1	NONE	7.1	< 1.0	< 1.0	< 1.0	1.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	19	2.4	2.9	4.1	3
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	320	32	56	51	50
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	5.7	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	24	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	64	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	93	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	24	< 10	< 10	< 10	11
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	70	< 10	< 10	22	26
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	94	< 10	< 10	31	38

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Your Order No: TBC

Lab Sample Number				2355322	2355323	2355324	2355325	2355326
Sample Reference				TP104	WS101	WS101	WS102	WS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	0.50	1.00	0.50	1.00
Date Sampled				15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2355322	2355323	2355324	2355325	2355326
Sample Reference				TP104	WS101	WS101	WS102	WS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	0.50	1.00	0.50	1.00
Date Sampled				15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355322	2355323	2355324	2355325	2355326
Sample Reference				TP104	WS101	WS101	WS102	WS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	0.50	1.00	0.50	1.00
Date Sampled				15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-

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Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355322	2355323	2355324	2355325	2355326
Sample Reference				TP104	WS101	WS101	WS102	WS102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	0.50	1.00	0.50	1.00
Date Sampled				15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355327	2355328	2355329	2355330	2355331
Sample Reference				WS103	WS103	WS103	WS104	WS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.20	1.60	0.60	0.40
Date Sampled				14/07/2022	14/07/2022	14/07/2022	12/07/2022	15/07/2022
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	25	< 0.1	66	29	19
Moisture Content	%	0.01	NONE	8.6	3.8	5.3	5.3	0.63
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile & Anthophyllite	Chrysotile & Amosite	-	Chrysotile & Anthophyllite	-
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Not-detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.002	0.002	-	0.001	-
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	< 0.001	< 0.001	-	< 0.001	-
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	0.003	0.003	-	0.001	-
Asbestos Analyst ID	N/A	N/A	N/A	JSW	JSW	LFT	JSW	LFT
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.4	9.3	11.8	9.3	9.8
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.1	1.2	0.7	2.9	1.7
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	-	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.37
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.42	0.35	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.37	0.18	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	2.6	4.8	5.5	1.7	2.1
Anthracene	mg/kg	0.05	MCERTS	0.88	1.5	0.77	0.52	0.76
Fluoranthene	mg/kg	0.05	MCERTS	5.4	9.5	8.8	4.4	4.8
Pyrene	mg/kg	0.05	MCERTS	4.7	8.1	7.4	4.2	4.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.8	6.5	4.6	2.8	3.3
Chrysene	mg/kg	0.05	MCERTS	2.3	4.4	3.5	2.2	2.5
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	2.4	4.7	4.2	2.8	4.2
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.9	3.2	2.3	1.6	1.5
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.7	5.2	4	3	3.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.3	2.3	1.9	1.4	1.8
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	0.49
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.6	2.8	2.4	2	2.3
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	29.5	53.9	46	26.4	32

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Your Order No: TBC

Lab Sample Number				2355327	2355328	2355329	2355330	2355331
Sample Reference				WS103	WS103	WS103	WS104	WS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.20	1.60	0.60	0.40
Date Sampled				14/07/2022	14/07/2022	14/07/2022	12/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	74	260	700	470	8.6
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	44	130	650	210	13
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	4.2	1.4	2.7	0.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2.2	< 0.2	< 0.2	< 0.2	0.7
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	2.5	U/S	U/S	< 1.8
Chromium (III)	mg/kg	1	NONE	25	26	U/S	U/S	18
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	26	29	23	26	19
Copper (aqua regia extractable)	mg/kg	1	MCERTS	65	110	200	140	41
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1200	2100	6100	12000	140
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9	0.5	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	19	20	21	26	13
Silver (aqua regia extractable)	mg/kg	1	NONE	10	21	100	68	1.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	19	51	38	64	5.2
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	370	760	1600	2200	120
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	9.1	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	36	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	140	66	45
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10	< 10	180	73	47
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	16	13	12
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	16	41	88	29	28
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	42	110	230	98	170
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	58	160	340	140	210

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Lab Sample Number				2355327	2355328	2355329	2355330	2355331
Sample Reference				WS103	WS103	WS103	WS104	WS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.20	1.60	0.60	0.40
Date Sampled				14/07/2022	14/07/2022	14/07/2022	12/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-

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Lab Sample Number				2355327	2355328	2355329	2355330	2355331
Sample Reference				WS103	WS103	WS103	WS104	WS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.20	1.60	0.60	0.40
Date Sampled				14/07/2022	14/07/2022	14/07/2022	12/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355327	2355328	2355329	2355330	2355331
Sample Reference				WS103	WS103	WS103	WS104	WS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.20	1.60	0.60	0.40
Date Sampled				14/07/2022	14/07/2022	14/07/2022	12/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-

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Lab Sample Number				2355327	2355328	2355329	2355330	2355331
Sample Reference				WS103	WS103	WS103	WS104	WS105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.20	1.60	0.60	0.40
Date Sampled				14/07/2022	14/07/2022	14/07/2022	12/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355332
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				15/07/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Stone Content	%	0.1	NONE	13
Moisture Content	%	0.01	NONE	7.4
Total mass of sample received	kg	0.001	NONE	0.6

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile & Anthophyllite
Asbestos in Soil	Type	N/A	ISO 17025	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.001
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	< 0.001
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	0.001
Asbestos Analyst ID	N/A	N/A	N/A	JSW

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	8.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2.4

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.7
Anthracene	mg/kg	0.05	MCERTS	0.54
Fluoranthene	mg/kg	0.05	MCERTS	3.8
Pyrene	mg/kg	0.05	MCERTS	3.5
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.1
Chrysene	mg/kg	0.05	MCERTS	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.8
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.9
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	20.3

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Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355332
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				15/07/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	65
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	44
Boron (water soluble)	mg/kg	0.2	MCERTS	4.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.5
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	38
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	39
Copper (aqua regia extractable)	mg/kg	1	MCERTS	85
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1400
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.9
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	30
Silver (aqua regia extractable)	mg/kg	1	NONE	9.3
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	22
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	440
Monoaromatics & Oxygenates				
Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	11
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	24
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	11
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	47
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	14
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	33
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	47

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Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355332
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				15/07/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
VOCs				
Chloromethane	µg/kg	1	ISO 17025	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
Butylbenzene	µg/kg	1	MCERTS	< 1.0

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355332
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				15/07/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0

Analytical Report Number: 22-72247
Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355332
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				15/07/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
SVOCs				
Aniline	mg/kg	0.1	NONE	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	1.7
Anthracene	mg/kg	0.05	MCERTS	0.54
Carbazole	mg/kg	0.3	MCERTS	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	3.8
Pyrene	mg/kg	0.05	MCERTS	3.5
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.1
Chrysene	mg/kg	0.05	MCERTS	1.7
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.8
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.2
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1.9

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Project / Site name: BRM Area 4 GI
Your Order No: TBC

Lab Sample Number				2355332
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				0.50
Date Sampled				15/07/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.9
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.1

U/S = Unsuitable Sample I/S = Insufficient Sample

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Project / Site name: BRM Area 4 GI
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Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

"The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by Gravimetric (Stage 2) Method (%)	Asbestos by PCM (stage 3) Method (%)	Total % Asbestos in Sample
2355316	BH105	0.90	134	Loose Fibres	**Anthophyllite**	0.018	0.002	**0.020**
2355320	TP102	0.90	132	Loose Fibres	**Anthophyllite**	< 0.001	< 0.001	**0.001**
2355321	TP103	0.70	141	Loose Fibres	**Chrysotile & Amosite**	< 0.001	< 0.001	**< 0.001**
2355322	TP104	1.70	116	Loose Fibres	**Chrysotile**	< 0.001	< 0.001	**< 0.001**
2355327	WS103	0.50	140	Loose Fibres	**Chrysotile & Anthophyllite**	0.002	< 0.001	**0.003**
2355328	WS103	1.20	143	Loose Fibrous Debris & Loose Fibres	**Chrysotile & Amosite**	0.002	< 0.001	**0.003**
2355330	WS104	0.60	134	Bitumen & Loose Fibres	**Chrysotile & Anthophyllite**	0.001	< 0.001	**0.001**
2355332	WS106	0.50	134	Loose Fibres	**Chrysotile & Anthophyllite**	0.001	< 0.001	**0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation

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* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2355307	HP101	None Supplied	0.3	Brown sand with gravel and stones.
2355308	HP102	None Supplied	0.5	Brown clay and sand with gravel and stones.
2355309	BH101A	None Supplied	0.6	Brown sand with gravel.
2355310	BH101C	None Supplied	1.9	Brown sand with gravel and fibrous material.
2355311	BH102	None Supplied	0.3	Brown sand with gravel and stones.
2355312	BH102	None Supplied	0.9	Brown sand with gravel and stones.
2355313	BH103	None Supplied	0.4	Brown sand with gravel and stones.
2355314	BH103	None Supplied	1	Brown sand with gravel.
2355315	BH104	None Supplied	0.4	Brown sand with gravel and stones.
2355316	BH105	None Supplied	0.9	Brown clay and sand with gravel.
2355317	TP101	None Supplied	0.1	Brown loam and clay with gravel and vegetation.
2355318	TP101	None Supplied	0.6	Brown sand with gravel and stones.
2355319	TP101	None Supplied	1.6	Brown clay and sand with gravel.
2355320	TP102	None Supplied	0.9	Brown sand with gravel and stones.
2355321	TP103	None Supplied	0.7	Brown sand with gravel and stones.
2355322	TP104	None Supplied	1.7	Brown clay and sand with gravel.
2355323	WS101	None Supplied	0.5	Brown sand with gravel and stones.
2355324	WS101	None Supplied	1	Brown sand with gravel.
2355325	WS102	None Supplied	0.5	Beige sand with gravel and stones.
2355326	WS102	None Supplied	1	Brown sand with gravel.
2355327	WS103	None Supplied	0.5	Brown sand with gravel and stones.
2355328	WS103	None Supplied	1.2	Brown clay and sand with gravel.
2355329	WS103	None Supplied	1.6	Brown sand with gravel and stones.
2355330	WS104	None Supplied	0.6	Brown sand with gravel and stones.
2355331	WS105	None Supplied	0.4	Brown sand with gravel and stones.
2355332	WS106	None Supplied	0.5	Brown sand with gravel and stones.

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Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - PCOM	Asbestos quantification by PCOM and fibre counting method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025

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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
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 22-72247
Project / Site name: BRM Area 4 GI

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
BH101A	None Supplied	S	2355309	c	Free cyanide in soil	L080-PL	c
BH101A	None Supplied	S	2355309	c	Total cyanide in soil	L080-PL	c
BH103	None Supplied	S	2355313	c	Free cyanide in soil	L080-PL	c
BH103	None Supplied	S	2355313	c	Total cyanide in soil	L080-PL	c
BH103	None Supplied	S	2355314	c	Free cyanide in soil	L080-PL	c
BH103	None Supplied	S	2355314	c	Total cyanide in soil	L080-PL	c
WS104	None Supplied	S	2355330	c	Free cyanide in soil	L080-PL	c
WS104	None Supplied	S	2355330	c	Total cyanide in soil	L080-PL	c

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Analytical Report Number : 22-73704

Project / Site name:	BRM Area 4 GI	**Samples received on:**	22/07/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	26/07/2022
Your order number:	20000322	**Analysis completed by:**	02/08/2022
Report Issue Number:	1	**Report issued on:**	02/08/2022
Samples Analysed:	3 soil samples		

Martyna Langer

Signed:

Martyna Langer
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-73704
Project / Site name: BRM Area 4 GI

Lab Sample Number				2363911	2363912	2363913
Sample Reference				BH103 Alluvium - clay with	BH103 Alluvium - v soft	BH103 Alluvium - peat
Sample Number				wood/organic	caly with organic	plastic pseudo fibrous
Depth (m)				2.10	7.50	9.20
Date Sampled				20/07/2022	20/07/2022	20/07/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	34	41	61
Total mass of sample received	kg	0.001	NONE	0.9	0.9	0.9

General Inorganics

Organic Matter	%	0.1	MCERTS	-	-	23
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	2	3.3	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	13

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-73704
Project / Site name: BRM Area 4 GI

* 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 *
2363911	3 Alluvium - cla	wood/organic	2.1	Brown sludge.**
2363912	03 Alluvium - v	caly with organi	7.5	Brown sludge.**
2363913	103 Alluvium - p	stic pseudo fibr	9.2	Brown clay and sand.

**Non MCERTS Matrix

Analytical Report Number : 22-73704
Project / Site name: BRM Area 4 GI

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
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Organic matter in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

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.

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Analytical Report Number : 22-76186

Project / Site name:	BRM Area 4 GI	**Samples received on:**	03/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	03/08/2022
Your order number:	20000322	**Analysis completed by:**	11/08/2022
Report Issue Number:	1	**Report issued on:**	11/08/2022
Samples Analysed:	10 soil samples		

Martyna Langer

Signed:

Martyna Langer
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-76186
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2378216	2378217	2378218	2378219	2378220
Sample Reference				BH101c	BH101c	BH101c	BH101c	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	2.50	6.00	12.50	0.10
Date Sampled				01/08/2022	02/08/2022	02/08/2022	03/08/2022	04/08/2022
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	66
Moisture Content	%	0.01	NONE	15	33	58	58	0.14
Total mass of sample received	kg	0.001	NONE	1.1	1.2	1.2	1.2	1.2
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	-	-	-	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	JMA	N/A	N/A	N/A	JMA
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	11.4	8.6	8	7.6	11.3
Total Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	-	< 1.0
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS	16	-	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	17	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	2.5	6	-	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	8.9	-
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.83	-	-	-	0.28
Anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	1.3	-	-	-	0.41
Pyrene	mg/kg	0.05	MCERTS	1.1	-	-	-	0.35
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.64	-	-	-	< 0.05
Chrysene	mg/kg	0.05	MCERTS	0.52	-	-	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.48	-	-	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.33	-	-	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.46	-	-	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	5.59	-	-	-	1.04

Analytical Report Number: 22-76186
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2378216	2378217	2378218	2378219	2378220
Sample Reference				BH101c	BH101c	BH101c	BH101c	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	2.50	6.00	12.50	0.10
Date Sampled				01/08/2022	02/08/2022	02/08/2022	03/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	4	-	-	-	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.9	-	-	-	6.5
Boron (water soluble)	mg/kg	0.2	MCERTS	4.2	-	-	-	0.6
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1	-	-	-	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	-	-	-	< 1.8
Chromium (III)	mg/kg	1	NONE	21	-	-	-	16
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	-	-	-	16
Copper (aqua regia extractable)	mg/kg	1	MCERTS	41	-	-	-	14
Lead (aqua regia extractable)	mg/kg	1	MCERTS	53	-	-	-	27
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	-	-	-	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	-	-	-	10
Silver (aqua regia extractable)	mg/kg	1	NONE	< 1.0	-	-	-	< 1.0
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	-	-	-	12
Tin (aqua regia extractable)	mg/kg	1	MCERTS	9.8	-	-	-	< 1.0
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	150	-	-	-	55
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-76186
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2378221	2378222	2378223	2378224	2378225
Sample Reference				BH105	BH105	BH105	BH105	Surface sample
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	from south west of site
Depth (m)				0.25	0.40	1.30	1.60	None Supplied
Date Sampled				04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
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	75	< 0.1	62	37	< 0.1
Moisture Content	%	0.01	NONE	3.5	24	8.7	5.9	< 0.01
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1	1.1	1.2
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	JMA	JMA	JMA	JMA	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	11.7	8.2	8.5	8.6	-
Total Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	-	-
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	-	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	-	-	-	-
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS	-	-	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	1.2	0.7	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	-	-	-

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	5.5	1.7	< 0.05	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	0.46	0.58	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	5.3	0.9	< 0.05	< 0.05	-
Fluorene	mg/kg	0.05	MCERTS	5.4	0.81	< 0.05	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	36	5.2	0.23	0.49	-
Anthracene	mg/kg	0.05	MCERTS	8.7	1.3	< 0.05	< 0.05	-
Fluoranthene	mg/kg	0.05	MCERTS	26	6.5	0.51	0.78	-
Pyrene	mg/kg	0.05	MCERTS	20	6	0.4	0.69	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	10	4.4	0.41	0.55	-
Chrysene	mg/kg	0.05	MCERTS	8.2	3.9	0.26	0.42	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	9.6	4.7	0.24	0.57	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.1	4.1	0.27	0.33	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	8.6	5.3	0.28	0.51	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	4.4	3.1	< 0.05	0.3	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	1.4	< 0.05	< 0.05	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	5.3	3.6	< 0.05	0.35	-

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	158	52.1	2.6	4.99	-

Analytical Report Number: 22-76186
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2378221	2378222	2378223	2378224	2378225
Sample Reference				BH105	BH105	BH105	BH105	Surface sample
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	from south west of site
Depth (m)				0.25	0.40	1.30	1.60	None Supplied
Date Sampled				04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	12	7.2	37	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.6	34	19	31	4.5
Boron (water soluble)	mg/kg	0.2	MCERTS	0.6	6.8	5.1	14	0.8
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	5.4	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	19	97	25	15	11
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	98	26	15	11
Copper (aqua regia extractable)	mg/kg	1	MCERTS	25	160	39	31	8
Lead (aqua regia extractable)	mg/kg	1	MCERTS	35	300	140	410	2.9
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	2.9	1	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	12	40	17	9.4	6.2
Silver (aqua regia extractable)	mg/kg	1	NONE	< 1.0	7	1.2	2.9	< 1.0
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	6.3	1	< 1.0	< 1.0	17
Tin (aqua regia extractable)	mg/kg	1	MCERTS	3.7	29	7	6.9	2.4
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	62	450	130	150	8
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	< 10	< 10	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	< 10	< 10	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	< 10	< 10	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	< 10	< 10	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-76186
Project / Site name: BRM Area 4 GI

* 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 *
2378216	BH101c	None Supplied	1.2	Brown clay and sand with gravel.
2378217	BH101c	None Supplied	2.5	Brown clay and sand.
2378218	BH101c	None Supplied	6	Brown clay and sand.
2378219	BH101c	None Supplied	12.5	Brown clay and sand.
2378220	BH105	None Supplied	0.1	Brown sand with stones.
2378221	BH105	None Supplied	0.25	Brown loam and sand with stones.
2378222	BH105	None Supplied	0.4	Brown clay and loam.
2378223	BH105	None Supplied	1.3	Brown clay and loam with stones.
2378224	BH105	None Supplied	1.6	Brown loam and sand with stones.
2378225	Surface sample	n south west of	None Supplied	Non Soil**

**Non MCERTS Matrix

Analytical Report Number : 22-76186
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Ammonia as NH3 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Ammonium as NH4 in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method, 10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

Analytical Report Number : 22-76186
Project / Site name: BRM Area 4 GI

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
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-76201

Project / Site name:	BRM Area 4 GI	**Samples received on:**	29/07/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	05/08/2022
Your order number:	20000322	**Analysis completed by:**	12/08/2022
Report Issue Number:	1	**Report issued on:**	12/08/2022
Samples Analysed:	3 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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-76201
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2378415	2378416	2378417
Sample Reference				BH102	BH102	BH102
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				1.40	4.00	8.50
Date Sampled				27/07/2022	28/07/2022	28/07/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	36	57
Total mass of sample received	kg	0.001	NONE	1	1	1

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	-	-	7.0
pH - Automated	pH Units	N/A	MCERTS	8.6	8.0	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.7	5.9	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	-	14

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-76201
Project / Site name: BRM Area 4 GI

* 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 *
2378415	BH102	None Supplied	1.4	Brown sand with gravel.
2378416	BH102	None Supplied	4	Brown clay with gravel.
2378417	BH102	None Supplied	8.5	3.5.19.0

Analytical Report Number : 22-76201
Project / Site name: BRM Area 4 GI

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
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
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Total organic carbon in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L023-PL	D	MCERTS

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.

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Analytical Report Number : 22-78047

Project / Site name:	BRM Area 4 GI	**Samples received on:**	15/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	15/08/2022
Your order number:	20000322	**Analysis completed by:**	22/08/2022
Report Issue Number:	1	**Report issued on:**	22/08/2022
Samples Analysed:	9 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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-78047
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
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	42	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	48	9.8	21	39
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	LFT	LFT	N/A
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	-	8.1	9.1	-
Total Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Complex Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	0.14	0.013	0.67
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	51	150	2000
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	< 0.5	< 0.5	130
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.4	6	1.4	0.6	3.6
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.4	0.41	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	0.73	0.24	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	0.35	0.3	-
Fluorene	mg/kg	0.05	MCERTS	-	-	0.31	0.2	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	3.5	1.6	-
Anthracene	mg/kg	0.05	MCERTS	-	-	1.1	0.7	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	8.2	3.2	-
Pyrene	mg/kg	0.05	MCERTS	-	-	7.8	2.7	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	5.6	2	-
Chrysene	mg/kg	0.05	MCERTS	-	-	3.6	2.1	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	6.5	2.5	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	1.7	0.66	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	5	2.1	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	3.4	1.1	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	1.1	0.4	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	4.3	1.3	-
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	53.5	21.5	-

Analytical Report Number: 22-78047
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1	9.5	140	4.8	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.3	57	84	16	40
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	7.2	6.6	11	7.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	8.5	< 0.2	1	5.7
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	11	140	30	19	71
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	11	140	30	19	71
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.6	240	76	29	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	17	390	3100	61	180
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	7.2	0.6	0.5	2.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.4	50	22	13	33
Silver (aqua regia extractable)	mg/kg	1	NONE	< 1.0	14	30	< 1.0	4
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	1.7	35	38	5.4	16
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	38	750	540	120	480
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	< 10	< 10	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	11	18	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	45	34	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	56	52	-

Analytical Report Number: 22-78047
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
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**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-

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Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

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Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
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**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-

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Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
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**					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-78047
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				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	34	< 0.1	55
Moisture Content	%	0.01	NONE	4	3.8	40	6.9
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite- Loose Fibres	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	-
Asbestos Analyst ID	N/A	N/A	N/A	LFT	LFT	LFT	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	8.3	8.3	9.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	1.2	5.5	-
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	1.2	5.5	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.027	0.18	1.1	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	6.9	47	5000	-
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.1	1.9	4.5	1.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.98	0.85	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.82	0.89	0.42
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.49	0.89	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.58	0.79	0.24
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	4.3	3.3	2.3
Anthracene	mg/kg	0.05	MCERTS	< 0.05	1.4	1.6	0.57
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	7.1	13	4.6
Pyrene	mg/kg	0.05	MCERTS	< 0.05	6.1	11	4.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	4.2	7.6	2.9
Chrysene	mg/kg	0.05	MCERTS	< 0.05	2.9	7.6	2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	4.6	13	3.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	1	5.2	0.75
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	3.2	12	2.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.7	5	1.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.53	1.3	0.39
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	2.1	5.7	1.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	42	90	27

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Your Order No: 20000322

Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.4	75	15	190
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.7	37	48	85
Boron (water soluble)	mg/kg	0.2	MCERTS	1.9	1.8	12	3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	2	6.6	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	6.2	39	100	29
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	6.4	39	100	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.7	95	160	150
Lead (aqua regia extractable)	mg/kg	1	MCERTS	14	1300	350	3300
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	1.3	2.8	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4.4	29	46	27
Silver (aqua regia extractable)	mg/kg	1	NONE	< 1.0	7	7.8	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	1.8	19	24	43
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	27	460	550	740
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	11	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	140	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10	< 10	150	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	3.9	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	16	31	22
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	34	76	66
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	< 10	50	110	88

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Your Order No: 20000322

Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-

Analytical Report Number: 22-78047
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-

Analytical Report Number: 22-78047
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
SVOCs							
Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	0.98	0.85	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	0.6	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.5	0.5	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	0.82	0.89	-
Acenaphthene	mg/kg	0.05	MCERTS	-	0.49	0.89	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	0.4	0.5	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	0.58	0.79	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	4.3	3.3	-
Anthracene	mg/kg	0.05	MCERTS	-	1.4	1.6	-
Carbazole	mg/kg	0.3	MCERTS	-	0.3	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	-	7.1	13	-
Pyrene	mg/kg	0.05	MCERTS	-	6.1	11	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	4.2	7.6	-
Chrysene	mg/kg	0.05	MCERTS	-	2.9	7.6	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	4.6	13	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	1	5.2	-

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Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	3.2	12	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1.7	5	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.53	1.3	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	2.1	5.7	-

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	< 0.001	-	-

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	-	< 0.007	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2388143	WS102	None Supplied	1.7	Brown sand with gravel.
2388144	WS102	None Supplied	2.8	Brown clay and loam with gravel and vegetation.
2388145	WS104	None Supplied	1.6	Brown clay and sand with gravel and stones.
2388146	WS104	None Supplied	1.9	Brown sand with gravel.
2388147	WS104	None Supplied	2.8	Brown clay and loam with gravel.
2388148	WS105	None Supplied	1.5	Brown sand with gravel.
2388149	WS106	None Supplied	0.5	Brown sand with gravel and stones.
2388150	BH104	None Supplied	1.5	Brown clay and sand with gravel.
2388151	BH104	None Supplied	3	Brown clay and sand with gravel and stones.

Analytical Report Number : 22-78047
Project / Site name: BRM Area 4 GI

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
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS

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Project / Site name: BRM Area 4 GI

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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 22-78047
Project / Site name: BRM Area 4 GI

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
BH104	None Supplied	S	2388150	a	None Supplied	None Supplied	None Supplied
BH104	None Supplied	S	2388151	a	None Supplied	None Supplied	None Supplied
WS102	None Supplied	S	2388143	a	None Supplied	None Supplied	None Supplied
WS102	None Supplied	S	2388144	a	None Supplied	None Supplied	None Supplied
WS104	None Supplied	S	2388145	a	None Supplied	None Supplied	None Supplied
WS104	None Supplied	S	2388146	a	None Supplied	None Supplied	None Supplied
WS104	None Supplied	S	2388147	a	None Supplied	None Supplied	None Supplied
WS105	None Supplied	S	2388148	a	None Supplied	None Supplied	None Supplied
WS106	None Supplied	S	2388149	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 22-78047

Replaces Analytical Report Number: 22-78047, issue no. 1
Additional analysis undertaken.

Project / Site name:	BRM Area 4 GI	**Samples received on:**	15/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	15/08/2022
Your order number:	20000322	**Analysis completed by:**	31/08/2022
Report Issue Number:	2	**Report issued on:**	07/09/2022
Samples Analysed:	9 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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-78047
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
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	42	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	19	48	9.8	21	39
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	LFT	LFT	N/A
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	-	-	8.1	9.1	-
Total Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Complex Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	-	-	0.14	0.013	0.67
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	-	-	51	150	2000
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	-	-	< 0.5	< 0.5	130
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.4	6	1.4	0.6	3.6
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	-	-	0.4	0.41	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	0.73	0.24	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	0.35	0.3	-
Fluorene	mg/kg	0.05	MCERTS	-	-	0.31	0.2	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	3.5	1.6	-
Anthracene	mg/kg	0.05	MCERTS	-	-	1.1	0.7	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	8.2	3.2	-
Pyrene	mg/kg	0.05	MCERTS	-	-	7.8	2.7	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	5.6	2	-
Chrysene	mg/kg	0.05	MCERTS	-	-	3.6	2.1	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	6.5	2.5	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	1.7	0.66	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	5	2.1	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	3.4	1.1	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	1.1	0.4	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	4.3	1.3	-
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	53.5	21.5	-

Analytical Report Number: 22-78047
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	1	9.5	140	4.8	< 1.0
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	9.3	57	84	16	40
Boron (water soluble)	mg/kg	0.2	MCERTS	0.4	7.2	6.6	11	7.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	8.5	< 0.2	1	5.7
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	11	140	30	19	71
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	11	140	30	19	71
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8.6	240	76	29	100
Lead (aqua regia extractable)	mg/kg	1	MCERTS	17	390	3100	61	180
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	7.2	0.6	0.5	2.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.4	50	22	13	33
Silver (aqua regia extractable)	mg/kg	1	NONE	< 1.0	14	30	< 1.0	4
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	1.7	35	38	5.4	16
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	38	750	540	120	480
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
o-xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	< 8.0	< 8.0	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	< 10	< 10	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	< 2.0	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	11	18	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	45	34	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	56	52	-

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Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
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**					
VOCs								
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	-

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Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	-

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Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
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**					
SVOCs								
Aniline	mg/kg	0.1	NONE	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	-

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Lab Sample Number				2388143	2388144	2388145	2388146	2388147
Sample Reference				WS102	WS102	WS104	WS104	WS104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.70	2.80	1.60	1.90	2.80
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**					
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	-
PCBs by GC-MS								
PCB Congener 28	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	-	-	-	-
Total PCBs by GC-MS								
Total PCBs	mg/kg	0.007	MCERTS	-	-	-	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				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	34	< 0.1	55
Moisture Content	%	0.01	NONE	4	3.8	40	6.9
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8

Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	Amosite	-	-
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	< 0.001	-	-
Asbestos Quantification Total	%	0.001	ISO 17025	-	< 0.001	-	-
Asbestos Analyst ID	N/A	N/A	N/A	LFT	LFT	LFT	N/A

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	-	8.3	8.3	9.7
Total Cyanide	mg/kg	1	MCERTS	< 1.0	1.2	5.5	-
Complex Cyanide	mg/kg	1	MCERTS	< 1.0	1.2	5.5	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.027	0.18	1.1	-
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	6.9	47	5000	-
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	< 0.5	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.1	1.9	4.5	1.2

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	-	-

Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.98	0.85	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.82	0.89	0.42
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.49	0.89	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.58	0.79	0.24
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	4.3	3.3	2.3
Anthracene	mg/kg	0.05	MCERTS	< 0.05	1.4	1.6	0.57
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	7.1	13	4.6
Pyrene	mg/kg	0.05	MCERTS	< 0.05	6.1	11	4.1
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	4.2	7.6	2.9
Chrysene	mg/kg	0.05	MCERTS	< 0.05	2.9	7.6	2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	4.6	13	3.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	1	5.2	0.75
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	3.2	12	2.4
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	1.7	5	1.4
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.53	1.3	0.39
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	2.1	5.7	1.6

Total PAH

Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	42	90	27

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Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Heavy Metals / Metalloids							
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	2.4	75	15	190
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.7	37	48	85
Boron (water soluble)	mg/kg	0.2	MCERTS	1.9	1.8	12	3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	2	6.6	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	6.2	39	100	29
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	6.4	39	100	30
Copper (aqua regia extractable)	mg/kg	1	MCERTS	9.7	95	160	150
Lead (aqua regia extractable)	mg/kg	1	MCERTS	14	1300	350	3300
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	1.3	2.8	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	4.4	29	46	27
Silver (aqua regia extractable)	mg/kg	1	NONE	< 1.0	7	7.8	42
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	1.8	19	24	43
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	27	460	550	740
Monoaromatics & Oxygenates							
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	11	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	< 8.0	140	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10	< 10	150	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	3.9	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	16	31	22
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	34	76	66
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	< 10	50	110	88

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Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
VOCs							
Chloromethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Chloroethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-
Bromomethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Vinyl Chloride	µg/kg	1	NONE	-	< 1.0	< 1.0	-
Trichlorofluoromethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-
1,1-Dichloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
2,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Trichloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-
Benzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Tetrachloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Trichloroethene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Dibromomethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Bromodichloromethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Toluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Tetrachloroethene	µg/kg	1	NONE	-	< 1.0	< 1.0	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
Chlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
p & m-Xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Styrene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Tribromomethane	µg/kg	1	NONE	-	< 1.0	< 1.0	-
o-Xylene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Isopropylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Bromobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
sec-Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Butylbenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-

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Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	< 1.0	< 1.0	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	< 1.0	< 1.0	-

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Your Order No: 20000322

Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
SVOCs							
Aniline	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
Phenol	mg/kg	0.2	ISO 17025	-	< 0.2	< 0.2	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	< 0.05	< 0.05	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
4-Methylphenol	mg/kg	0.2	NONE	-	< 0.2	< 0.2	-
Isophorone	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Naphthalene	mg/kg	0.05	MCERTS	-	0.98	0.85	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
4-Chloroaniline	mg/kg	0.1	NONE	-	0.6	< 0.1	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	< 0.1	< 0.1	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
2-Methylnaphthalene	mg/kg	0.1	NONE	-	0.5	0.5	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	< 0.1	< 0.1	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	0.82	0.89	-
Acenaphthene	mg/kg	0.05	MCERTS	-	0.49	0.89	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	0.4	0.5	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Fluorene	mg/kg	0.05	MCERTS	-	0.58	0.79	-
Azobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Phenanthrene	mg/kg	0.05	MCERTS	-	4.3	3.3	-
Anthracene	mg/kg	0.05	MCERTS	-	1.4	1.6	-
Carbazole	mg/kg	0.3	MCERTS	-	0.3	< 0.3	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	< 0.2	< 0.2	-
Anthraquinone	mg/kg	0.3	MCERTS	-	< 0.3	< 0.3	-
Fluoranthene	mg/kg	0.05	MCERTS	-	7.1	13	-
Pyrene	mg/kg	0.05	MCERTS	-	6.1	11	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	< 0.3	< 0.3	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	4.2	7.6	-
Chrysene	mg/kg	0.05	MCERTS	-	2.9	7.6	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	4.6	13	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	1	5.2	-

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Lab Sample Number				2388148	2388149	2388150	2388151
Sample Reference				WS105	WS106	BH104	BH104
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.50	0.50	1.50	3.00
Date Sampled				Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	3.2	12	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	1.7	5	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	0.53	1.3	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	2.1	5.7	-
PCBs by GC-MS							
PCB Congener 28	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 52	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 101	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 118	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 138	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 153	mg/kg	0.001	MCERTS	-	< 0.001	-	-
PCB Congener 180	mg/kg	0.001	MCERTS	-	< 0.001	-	-
Total PCBs by GC-MS							
Total PCBs	mg/kg	0.007	MCERTS	-	< 0.007	-	-

U/S = Unsuitable Sample I/S = Insufficient Sample

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Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2388149	WS106	0.50	138	Loose Fibres	**Amosite**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

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* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2388143	WS102	None Supplied	1.7	Brown sand with gravel.
2388144	WS102	None Supplied	2.8	Brown clay and loam with gravel and vegetation.
2388145	WS104	None Supplied	1.6	Brown clay and sand with gravel and stones.
2388146	WS104	None Supplied	1.9	Brown sand with gravel.
2388147	WS104	None Supplied	2.8	Brown clay and loam with gravel.
2388148	WS105	None Supplied	1.5	Brown sand with gravel.
2388149	WS106	None Supplied	0.5	Brown sand with gravel and stones.
2388150	BH104	None Supplied	1.5	Brown clay and sand with gravel.
2388151	BH104	None Supplied	3	Brown clay and sand with gravel and stones.

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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
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Complex Cyanide in soil	Determination of complex cyanide by calculation.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Free cyanide in soil	Determination of free cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS

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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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 22-78047
Project / Site name: BRM Area 4 GI

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
BH104	None Supplied	S	2388150	a	None Supplied	None Supplied	None Supplied
BH104	None Supplied	S	2388151	a	None Supplied	None Supplied	None Supplied
WS102	None Supplied	S	2388143	a	None Supplied	None Supplied	None Supplied
WS102	None Supplied	S	2388144	a	None Supplied	None Supplied	None Supplied
WS104	None Supplied	S	2388145	a	None Supplied	None Supplied	None Supplied
WS104	None Supplied	S	2388146	a	None Supplied	None Supplied	None Supplied
WS104	None Supplied	S	2388147	a	None Supplied	None Supplied	None Supplied
WS105	None Supplied	S	2388148	a	None Supplied	None Supplied	None Supplied
WS106	None Supplied	S	2388149	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 22-79093

Project / Site name:	BRM Area 4 GI	**Samples received on:**	15/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	19/08/2022
Your order number:	20000322	**Analysis completed by:**	29/08/2022
Report Issue Number:	1	**Report issued on:**	29/08/2022
Samples Analysed:	1 soil sample		

Martyna Langer

Signed:

Martyna Langer
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-79093
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395602
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				1.50
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	7.5
Total mass of sample received	kg	0.001	NONE	1.3

General Inorganics

Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	72
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.036
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	36.1
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	22
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5

VOCs

Chloromethane	µg/kg	1	ISO 17025	< 1.0
Chloroethane	µg/kg	1	NONE	< 1.0
Bromomethane	µg/kg	1	ISO 17025	< 1.0
Vinyl Chloride	µg/kg	1	NONE	< 1.0
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloromethane	µg/kg	1	MCERTS	< 1.0
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0
Benzene	µg/kg	1	MCERTS	< 1.0
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0
Trichloroethene	µg/kg	1	MCERTS	< 1.0
Dibromomethane	µg/kg	1	MCERTS	< 1.0
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0
Tetrachloroethene	µg/kg	1	NONE	< 1.0
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0
Chlorobenzene	µg/kg	1	MCERTS	< 1.0
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-Xylene	µg/kg	1	MCERTS	< 1.0
Styrene	µg/kg	1	MCERTS	< 1.0
Tribromomethane	µg/kg	1	NONE	< 1.0
o-Xylene	µg/kg	1	MCERTS	< 1.0
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0

Analytical Report Number: 22-79093
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395602
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				1.50
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0
Bromobenzene	µg/kg	1	MCERTS	< 1.0
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0
Butylbenzene	µg/kg	1	MCERTS	< 1.0
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0

SVOCs

Aniline	mg/kg	0.1	NONE	< 0.1
Phenol	mg/kg	0.2	ISO 17025	< 0.2
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3
4-Methylphenol	mg/kg	0.2	NONE	< 0.2
Isophorone	mg/kg	0.2	MCERTS	< 0.2
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3
Naphthalene	mg/kg	0.05	MCERTS	< 0.05
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3

Analytical Report Number: 22-79093
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395602
Sample Reference				WS106
Sample Number				None Supplied
Depth (m)				1.50
Date Sampled				Deviating
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Azobenzene	mg/kg	0.3	MCERTS	< 0.3
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3
Phenanthrene	mg/kg	0.05	MCERTS	0.88
Anthracene	mg/kg	0.05	MCERTS	0.2
Carbazole	mg/kg	0.3	MCERTS	< 0.3
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3
Fluoranthene	mg/kg	0.05	MCERTS	2.1
Pyrene	mg/kg	0.05	MCERTS	2.1
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	1.4
Chrysene	mg/kg	0.05	MCERTS	1
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	1.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.54
Benzo(a)pyrene	mg/kg	0.05	MCERTS	1
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.56
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.69

PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	< 0.007

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-79093
Project / Site name: BRM Area 4 GI

* 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 *
2395602	WS106	None Supplied	1.5	Brown loam and clay with gravel and vegetation.

Analytical Report Number : 22-79093
Project / Site name: BRM Area 4 GI

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
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In house method.	L082-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Semi-volatile organic compounds in soil	Determination of semi-volatile organic compounds in soil by extraction in dichloromethane and hexane followed by GC-MS.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Volatile organic compounds in soil	Determination of volatile organic compounds in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Ammoniacal Nitrogen as N in soil	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the discrete analyser (colorimetric) salicylate/nitroprusside method,10:1 water extraction.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	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 : 22-79093
Project / Site name: BRM Area 4 GI

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
WS106	None Supplied	S	2395602	a	None Supplied	None Supplied	None Supplied

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Analytical Report Number : 22-79097

Project / Site name:	BRM Area 4 GI	**Samples received on:**	18/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	19/08/2022
Your order number:	20000322	**Analysis completed by:**	29/08/2022
Report Issue Number:	1	**Report issued on:**	29/08/2022
Samples Analysed:	2 soil samples		

Martyna Langer

Signed:

Martyna Langer
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-79097
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395678	2395679
Sample Reference				BH104	BH104
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	1.00
Date Sampled				09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	2.7	6
Total mass of sample received	kg	0.001	NONE	1.3	1.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Anthophyllite- Loose Fibres	Chrysotile- Loose Fibres
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI
General Inorganics					
pH - Automated	pH Units	N/A	MCERTS	11.8	10.7
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.84
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.26
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	3.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.6
Phenanthrene	mg/kg	0.05	MCERTS	1.3	5.9
Anthracene	mg/kg	0.05	MCERTS	0.22	2.8
Fluoranthene	mg/kg	0.05	MCERTS	4.1	90
Pyrene	mg/kg	0.05	MCERTS	3.9	97
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.1	140
Chrysene	mg/kg	0.05	MCERTS	3.8	130
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5.8	160
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	2.2	94
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.8	160
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.5	79
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.58	21
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.1	88
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	36.3	1080
Heavy Metals / Metalloids					
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	260	240
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	63	72
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	1.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S*	U/S*
Chromium (III)	mg/kg	1	NONE	U/S*	U/S*
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	69	94
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2100	4400
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	19
Silver (aqua regia extractable)	mg/kg	1	NONE	66	57
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	17	36
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	520	830

Analytical Report Number: 22-79097
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395678	2395679
Sample Reference				BH104	BH104
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	1.00
Date Sampled				09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Monoaromatics & Oxygenates					
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0
Petroleum Hydrocarbons					
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	5.1	9.6
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	15	20
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	58	150
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	78	180
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	13
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	15	220
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	140	2700
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	160	2900

U/S = Unsuitable Sample I/S = Insufficient Sample
*Analysis could not be completed due to sample matrix.

Analytical Report Number : 22-79097
Project / Site name: BRM Area 4 GI

* 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 *
2395678	BH104	None Supplied	0.5	Brown loam and sand with gravel and vegetation.
2395679	BH104	None Supplied	1	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 22-79097
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 22-79097
Project / Site name: BRM Area 4 GI

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-79097

Replaces Analytical Report Number: 22-79097, issue no. 1
Additional analysis undertaken.

Project / Site name:	BRM Area 4 GI	**Samples received on:**	18/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	19/08/2022
Your order number:	20000322	**Analysis completed by:**	15/09/2022
Report Issue Number:	2	**Report issued on:**	15/09/2022
Samples Analysed:	2 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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-79097
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395678	2395679
Sample Reference				BH104	BH104
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	1.00
Date Sampled				09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	2.7	6
Total mass of sample received	kg	0.001	NONE	1.3	1.3
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Anthophyllite	Chrysotile
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	MWI	MWI
General Inorganics					
pH - Automated	pH Units	N/A	MCERTS	11.8	10.7
Speciated PAHs					
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.84
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.26
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	3.2
Fluorene	mg/kg	0.05	MCERTS	< 0.05	0.6
Phenanthrene	mg/kg	0.05	MCERTS	1.3	5.9
Anthracene	mg/kg	0.05	MCERTS	0.22	2.8
Fluoranthene	mg/kg	0.05	MCERTS	4.1	90
Pyrene	mg/kg	0.05	MCERTS	3.9	97
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.1	140
Chrysene	mg/kg	0.05	MCERTS	3.8	130
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	5.8	160
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	2.2	94
Benzo(a)pyrene	mg/kg	0.05	MCERTS	4.8	160
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.5	79
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.58	21
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	3.1	88
Total PAH					
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	36.3	1080
Heavy Metals / Metalloids					
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	260	240
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	63	72
Boron (water soluble)	mg/kg	0.2	MCERTS	0.7	1.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	U/S	U/S
Chromium (III)	mg/kg	1	NONE	U/S	U/S
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	18	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	69	94
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2100	4400
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	19
Silver (aqua regia extractable)	mg/kg	1	NONE	66	57
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	17	36
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	520	830

Analytical Report Number: 22-79097
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395678	2395679
Sample Reference				BH104	BH104
Sample Number				None Supplied	None Supplied
Depth (m)				0.50	1.00
Date Sampled				09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Monoaromatics & Oxygenates					
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0
Petroleum Hydrocarbons					
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	5.1	9.6
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	15	20
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	58	150
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	78	180
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	13
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	15	220
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	140	2700
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	160	2900

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-79097
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2395678	BH104	0.50	149	Loose Fibres	**Anthophyllite**	< 0.001	**< 0.001**
2395679	BH104	1.00	134	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 22-79097
Project / Site name: BRM Area 4 GI

* 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 *
2395678	BH104	None Supplied	0.5	Brown loam and sand with gravel and vegetation.
2395679	BH104	None Supplied	1	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 22-79097
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 22-79097
Project / Site name: BRM Area 4 GI

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-79099

Project / Site name:	BRM Area 4 GI	**Samples received on:**	18/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	18/08/2022
Your order number:	20000322	**Analysis completed by:**	26/08/2022
Report Issue Number:	1	**Report issued on:**	26/08/2022
Samples Analysed:	1 soil sample		

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-79099
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395687
Sample Reference				BH106
Sample Number				None Supplied
Depth (m)				1.00
Date Sampled				09/08/2022
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	0.9
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	MWI
General Inorganics				
pH - Automated	pH Units	N/A	MCERTS	9.1
Speciated PAHs				
Naphthalene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	0.22
Anthracene	mg/kg	0.05	MCERTS	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	0.46
Pyrene	mg/kg	0.05	MCERTS	0.42
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.31
Chrysene	mg/kg	0.05	MCERTS	0.23
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.35
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.21
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.27
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05
Total PAH				
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	2.47
Heavy Metals / Metalloids				
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	5
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	19
Boron (water soluble)	mg/kg	0.2	MCERTS	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8
Chromium (III)	mg/kg	1	NONE	51
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	51
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110
Lead (aqua regia extractable)	mg/kg	1	MCERTS	82
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	38
Silver (aqua regia extractable)	mg/kg	1	NONE	9.1
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	9.3
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	120
Monoaromatics & Oxygenates				
Benzene	µg/kg	1	MCERTS	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0

Analytical Report Number: 22-79099
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2395687
Sample Reference				BH106
Sample Number				None Supplied
Depth (m)				1.00
Date Sampled				09/08/2022
Time Taken				None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**	
o-xylene	µg/kg	1	MCERTS	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0
Petroleum Hydrocarbons				
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	18
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	27

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-79099
Project / Site name: BRM Area 4 GI

* 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 *
2395687	BH106	None Supplied	1	Brown clay and sand with gravel.

Analytical Report Number : 22-79099
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

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.
Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 22-79099
Project / Site name: BRM Area 4 GI

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-80448

Replaces Analytical Report Number: 22-80448, issue no. 1
Additional analysis undertaken.

Project / Site name:	BRM Area 4 GI	**Samples received on:**	24/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	25/08/2022
Your order number:	20000322	**Analysis completed by:**	15/09/2022
Report Issue Number:	2	**Report issued on:**	15/09/2022
Samples Analysed:	3 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

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-80448
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2403641	2403642	2403643
Sample Reference				HP103	HP104	HP105
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.10	0.20
Date Sampled				24/08/2022	24/08/2022	24/08/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	2.2	2.4	2.6
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile	Anthophyllite	Anthophyllite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001
Asbestos Quantification Total	%	0.001	ISO 17025	< 0.001	< 0.001	< 0.001
Asbestos Analyst ID	N/A	N/A	N/A	DSA	DSA	DSA
Speciated PAHs						
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.2	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.24	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	0.21	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	1.4	0.59	0.81
Anthracene	mg/kg	0.05	MCERTS	0.4	< 0.05	0.22
Fluoranthene	mg/kg	0.05	MCERTS	3.5	1.8	2
Pyrene	mg/kg	0.05	MCERTS	3.2	1.6	1.8
Benzo(a)anthracene	mg/kg	0.05	MCERTS	2.3	1.1	1.3
Chrysene	mg/kg	0.05	MCERTS	2.2	0.98	1.2
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.4	1.6	1.8
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.92	0.44	0.51
Benzo(a)pyrene	mg/kg	0.05	MCERTS	2.5	1.1	1.3
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.4	0.6	0.68
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.34	< 0.05	0.2
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	1.6	0.7	0.77
Total PAH						
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	23.7	10.4	12.4
Heavy Metals / Metalloids						
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	160	20	19
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	92	17	21
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.9	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	1.4	1.6
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	34	27	33
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	34	27	34
Copper (aqua regia extractable)	mg/kg	1	MCERTS	120	34	33
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2400	460	480
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	24	19	21
Silver (aqua regia extractable)	mg/kg	1	NONE	33	2.1	7.2
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	34	18	7.5
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	750	200	210

Analytical Report Number: 22-80448
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Lab Sample Number				2403641	2403642	2403643
Sample Reference				HP103	HP104	HP105
Sample Number				None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.10	0.20
Date Sampled				24/08/2022	24/08/2022	24/08/2022
Time Taken				None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	**Units**	**Limit of detection**	**Accreditation Status**			
Monoaromatics & Oxygenates						
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	-
Petroleum Hydrocarbons						
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	7.5	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	22	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	24	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10	54	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	20	12	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	43	21	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	63	34	-
Organotins						
Tributyltin (chloride)	ug/kg	10	NONE	-	< 10	< 10
Dibutyltin (dichloride)	ug/kg	10	NONE	-	< 10	< 10
Triphenyltin (chloride)	ug/kg	10	NONE	-	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-80448
Project / Site name: BRM Area 4 GI
Your Order No: 20000322

Certificate of Analysis - Asbestos Quantification

Methods:

Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2403641	HP103	0.20	164	Loose Fibres	**Chrysotile**	< 0.001	**< 0.001**
2403642	HP104	0.10	148	Loose Fibres	**Anthophyllite**	< 0.001	**< 0.001**
2403643	HP105	0.20	146	Loose Fibres	**Anthophyllite**	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Analytical Report Number : 22-80448
Project / Site name: BRM Area 4 GI

* 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 *
2403641	HP103	None Supplied	0.2	Brown loam and sand with gravel and vegetation.
2403642	HP104	None Supplied	0.1	Brown loam and sand with gravel and vegetation.
2403643	HP105	None Supplied	0.2	Brown loam and sand with gravel and vegetation.

Analytical Report Number : 22-80448
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with dispersion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
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
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Cr (III) in soil	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS
Organotins in soil	Determination of organotin compounds in soil by GC-MS.	In-house method		W	NONE
Asbestos Quantification - Gravimetric	Asbestos quantification by gravimetric method - in house method based on references.	HSE Report No: 83/1996, HSG 248, HSG 264 & SCA Blue Book (draft).	A006-PL	D	ISO 17025
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in NaOH and addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 22-80448
Project / Site name: BRM Area 4 GI

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

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-76786

Project / Site name:	BRM Area 4 GI	**Samples received on:**	08/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	09/08/2022
Your order number:	20000322	**Analysis completed by:**	15/08/2022
Report Issue Number:	1	**Report issued on:**	15/08/2022
Samples Analysed:	2 water samples		

Signed:

Dominika Warjan
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-76786
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2381519	2381520
Sample Reference				Thames N	Thames S
Sample Number				None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied
Date Sampled				08/08/2022	08/08/2022
Time Taken				1040	1045
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH	pH Units	N/A	ISO 17025	7.9	7.9
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	30000	24000
Salinity	ppt	2	NONE	< 2.0	< 2.0
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	1.12	1.29
Hardness - Total	mgCaCO3/l	1	ISO 17025	4620	4350
Heavy Metals / Metalloids					
Calcium (dissolved)	mg/l	0.012	ISO 17025	310	310
Magnesium (dissolved)	mg/l	0.005	ISO 17025	940	870

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-76786
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Total Hardness of water	Determination of hardness in waters by calculation from calcium and magnesium. Accredited Matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L045-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Salinity in Water	Determination of salinity of water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

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Analytical Report Number : 22-79154

Project / Site name:	BRM Area 4 GI	**Samples received on:**	18/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	19/08/2022
Your order number:	20000322	**Analysis completed by:**	29/08/2022
Report Issue Number:	1	**Report issued on:**	29/08/2022
Samples Analysed:	7 water samples		

Signed:

Martyna Langer
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-79154
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2395943	2395944	2395945	2395946	2395947
Sample Reference				BH101 (s)	BH101 (d)	BH103 (d)	BH102 (s)	BH102 (d)
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				7.00	22.00	18.00	7.50	20.00
Date Sampled				17/08/2022	17/08/2022	18/08/2022	18/08/2022	18/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	7.4	7.1	7.2	6.8	7.1
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	30000	11000	10000	27000	9100
Salinity	ppt	2	NONE	19	6.3	5.8	16	5.1
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	10	20
Sulphate as SO4	mg/l	0.045	ISO 17025	197	616	671	23.3	364
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ammonium - Exchangeable as NH4	µg/l	15	ISO 17025	62000	7900	5400	30000	7400
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	26.8	3.48	2.04	19.7	4.53
Nitrate as N	mg/l	0.01	ISO 17025	0.25	0.1	0.03	0.21	0.13
Nitrate as NO3	mg/l	0.05	ISO 17025	1.12	0.46	0.15	0.91	0.56
Alkalinity as CaCO3	mg/l	3	ISO 17025	2700	620	430	2400	750
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

Analytical Report Number: 22-79154
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2395943	2395944	2395945	2395946	2395947
Sample Reference				BH101 (s)	BH101 (d)	BH103 (d)	BH102 (s)	BH102 (d)
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				7.00	22.00	18.00	7.50	20.00
Date Sampled				17/08/2022	17/08/2022	18/08/2022	18/08/2022	18/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	120	980	960	200	880
Calcium (dissolved)	mg/l	0.012	ISO 17025	430	200	160	440	170
Chromium (hexavalent)	µg/l	5	ISO 17025	U/S*	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	U/S*	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.18	0.1	0.034	0.37	0.14
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.8	0.8	0.9	2.6	1
Arsenic (dissolved)	µg/l	0.15	ISO 17025	14.1	1.54	0.89	4.55	0.47
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.04	0.05	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2	0.8	0.8	1.3	0.6
Copper (dissolved)	µg/l	0.5	ISO 17025	3.2	1.4	5.8	3.3	1.4
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	0.8	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1100	990	800	2400	1300
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	26	13	6.6	7.8	8.8
Selenium (dissolved)	µg/l	0.6	ISO 17025	54	1	< 0.6	< 0.6	< 0.6
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.5	11	8.5	9.4	7.7
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

*U/S due to high variances between chromium (hexavalent) and chromium (dissolved) caused by method differences.

Analytical Report Number: 22-79154
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2395948	2395949
Sample Reference				BH105 (s)	BH105 (d)
Sample Number				None Supplied	None Supplied
Depth (m)				4.50	18.00
Date Sampled				18/08/2022	18/08/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
General Inorganics					
pH	pH Units	N/A	ISO 17025	7.3	7.2
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	3100	5500
Salinity	ppt	2	NONE	< 2.0	3
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	39	291
Sulphide	µg/l	5	NONE	< 5.0	< 5.0
Ammonium - Exchangeable as NH4	µg/l	15	ISO 17025	27000	11000
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	25.2	5.54
Nitrate as N	mg/l	0.01	ISO 17025	0.18	0.08
Nitrate as NO3	mg/l	0.05	ISO 17025	0.81	0.36
Alkalinity as CaCO3	mg/l	3	ISO 17025	1400	710
Total Phenols					
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10
Speciated PAHs					
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01
Total PAH					
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16

Analytical Report Number: 22-79154
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2395948	2395949
Sample Reference				BH105 (s)	BH105 (d)
Sample Number				None Supplied	None Supplied
Depth (m)				4.50	18.00
Date Sampled				18/08/2022	18/08/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**		
Heavy Metals / Metalloids					
Boron (dissolved)	µg/l	10	ISO 17025	17000	2200
Calcium (dissolved)	mg/l	0.012	ISO 17025	270	130
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.13	0.08
Antimony (dissolved)	µg/l	0.4	ISO 17025	1.6	0.6
Arsenic (dissolved)	µg/l	0.15	ISO 17025	26.1	1.65
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.1	0.7
Copper (dissolved)	µg/l	0.5	ISO 17025	2.7	2.1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	610	350
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	2.1	2.1
Selenium (dissolved)	µg/l	0.6	ISO 17025	11	< 0.6
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	0.22	0.23
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.1	6
Monoaromatics & Oxygenates					
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0
Petroleum Hydrocarbons					
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

*U/S due to high variances between chromium (hexavalent) and chromium (dissolved) caused by method differences.

Analytical Report Number : 22-79154
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Exchangeable Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025

Analytical Report Number : 22-79154
Project / Site name: BRM Area 4 GI

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
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Salinity in Water	Determination of salinity of water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Alkalinity in Water (by discreet analyser)	Determination of Alkalinity by discreet analyser (colorimetry). Accredited matrices: SW, PW, GW.	In house method based on MEWAM & USEPA Method 310.2.	L082-PL	W	ISO 17025

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 22-79154
Project / Site name: BRM Area 4 GI

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
BH101 (d)	None Supplied	W	2395944	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101 (d)	None Supplied	W	2395944	c	Electrical conductivity at 20oC of water	L031-PL	c
BH101 (d)	None Supplied	W	2395944	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH101 (d)	None Supplied	W	2395944	c	pH at 20oC in water (automated)	L099-PL	c
BH101 (s)	None Supplied	W	2395943	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH101 (s)	None Supplied	W	2395943	c	Electrical conductivity at 20oC of water	L031-PL	c
BH101 (s)	None Supplied	W	2395943	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH101 (s)	None Supplied	W	2395943	c	pH at 20oC in water (automated)	L099-PL	c
BH102 (d)	None Supplied	W	2395947	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102 (d)	None Supplied	W	2395947	c	Electrical conductivity at 20oC of water	L031-PL	c
BH102 (d)	None Supplied	W	2395947	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH102 (d)	None Supplied	W	2395947	c	pH at 20oC in water (automated)	L099-PL	c
BH102 (s)	None Supplied	W	2395946	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH102 (s)	None Supplied	W	2395946	c	Electrical conductivity at 20oC of water	L031-PL	c
BH102 (s)	None Supplied	W	2395946	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH102 (s)	None Supplied	W	2395946	c	pH at 20oC in water (automated)	L099-PL	c
BH103 (d)	None Supplied	W	2395945	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH103 (d)	None Supplied	W	2395945	c	Electrical conductivity at 20oC of water	L031-PL	c
BH103 (d)	None Supplied	W	2395945	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH103 (d)	None Supplied	W	2395945	c	pH at 20oC in water (automated)	L099-PL	c
BH105 (d)	None Supplied	W	2395949	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH105 (d)	None Supplied	W	2395949	c	Electrical conductivity at 20oC of water	L031-PL	c
BH105 (d)	None Supplied	W	2395949	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH105 (d)	None Supplied	W	2395949	c	pH at 20oC in water (automated)	L099-PL	c
BH105 (s)	None Supplied	W	2395948	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH105 (s)	None Supplied	W	2395948	c	Electrical conductivity at 20oC of water	L031-PL	c
BH105 (s)	None Supplied	W	2395948	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH105 (s)	None Supplied	W	2395948	c	pH at 20oC in water (automated)	L099-PL	c

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Analytical Report Number : 22-80164

Project / Site name:	BRM Area 4 GI	**Samples received on:**	24/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	24/08/2022
Your order number:	20000322	**Analysis completed by:**	01/09/2022
Report Issue Number:	1	**Report issued on:**	01/09/2022
Samples Analysed:	5 water samples		

Signed:

Joanna Wawrzeczko
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-80164
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2402206	2402207	2402208	2402209	2402210
Sample Reference				BH101 s	BH101 d	BH102 s	BH102 d	BH103 d
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				9.00	19.00	8.00	18.00	18.00
Date Sampled				23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
General Inorganics								
pH	pH Units	N/A	ISO 17025	6.9	7	6.9	7.1	7.2
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	42000	16000	33000	10000	11000
Salinity	ppt	2	NONE	30	11	23	6.3	6.9
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	167	679	21	448	840
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ammonium - Exchangeable as NH4	µg/l	15	ISO 17025	62000	14000	32000	6000	2700
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	28.7	7.3	21.1	3.91	1.58
Nitrate as N	mg/l	0.01	ISO 17025	0.69	0.09	0.16	0.11	0.07
Nitrate as NO3	mg/l	0.05	ISO 17025	3.04	0.41	0.71	0.51	0.3
Alkalinity as CaCO3	mg/l	3	ISO 17025	3200	860	2500	640	420
Total Phenols								
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10
Speciated PAHs								
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH								
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16

Analytical Report Number: 22-80164
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2402206	2402207	2402208	2402209	2402210
Sample Reference				BH101 s	BH101 d	BH102 s	BH102 d	BH103 d
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				9.00	19.00	8.00	18.00	18.00
Date Sampled				23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**					
Heavy Metals / Metalloids								
Boron (dissolved)	µg/l	10	ISO 17025	1700	1100	710	840	890
Calcium (dissolved)	mg/l	0.012	ISO 17025	630	230	480	170	150
Chromium (hexavalent)	µg/l	5	ISO 17025	U/S*	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	U/S*	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.25	0.041	0.25	0.081	0.016
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	< 0.4	21	< 0.4	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	23.9	6.69	10.8	0.91	1.07
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	< 0.02	0.04	0.04
Chromium (dissolved)	µg/l	0.2	ISO 17025	1.2	1.3	2.2	0.9	0.9
Copper (dissolved)	µg/l	0.5	ISO 17025	1.9	1	7.3	2.9	1.7
Lead (dissolved)	µg/l	0.2	ISO 17025	0.3	< 0.2	4.8	< 0.2	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1400	880	2700	890	630
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	19	13	24	10	6.6
Selenium (dissolved)	µg/l	0.6	ISO 17025	60	26	66	14	12
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Zinc (dissolved)	µg/l	0.5	ISO 17025	12	9.8	19	7	8.3
Monoaromatics & Oxygenates								
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

*U/S due to high variances between chromium (hexavalent) and chromium (dissolved) caused by method differences. Sample was yellow.

Analytical Report Number : 22-80164
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Exchangeable Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE

Analytical Report Number : 22-80164
Project / Site name: BRM Area 4 GI

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
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Salinity in Water	Determination of salinity of water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Alkalinity in Water (by discreet analyser)	Determination of Alkalinity by discreet analyser (colorimetry). Accredited matrices: SW, PW, GW.	In house method based on MEWAM & USEPA Method 310.2.	L082-PL	W	ISO 17025

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

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Analytical Report Number : 22-80661

Project / Site name:	BRM Area 4 GI	**Samples received on:**	26/08/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	26/08/2022
Your order number:	20000322	**Analysis completed by:**	06/09/2022
Report Issue Number:	1	**Report issued on:**	06/09/2022
Samples Analysed:	4 water 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.

Analytical Report Number: 22-80661
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2404784	2404785	2404786	2404787
Sample Reference				BH104 (S)	BH104 (D)	BH105 (S)	BH105 (D)
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2022	23/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
General Inorganics							
pH	pH Units	N/A	ISO 17025	7.1	7.4	7.6	6.8
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	27000	4800	3000	23000
Salinity	ppt	2	NONE	18	2.8	< 2.0	15
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10
Sulphate as SO4	µg/l	45	ISO 17025	159000	89600	83800	90300
Sulphate as SO4	mg/l	0.045	ISO 17025	159	89.6	83.8	90.3
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Ammonium - Exchangeable as NH4	µg/l	15	ISO 17025	120000	12000	23000	59000
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	48.7	11	27	16.4
Nitrate as N	mg/l	0.01	ISO 17025	0.74	2.29	0.29	0.4
Nitrate as NO3	mg/l	0.05	ISO 17025	3.28	10.2	1.26	1.77
Alkalinity as CaCO3	mg/l	3	ISO 17025	3400	520	1100	2000
Total Phenols							
Total Phenols (monohydric)	µg/l	10	ISO 17025	76	< 10	< 10	64
Speciated PAHs							
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	4.11	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.1	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	1.42	< 0.01	3.69	< 0.01
Fluorene	µg/l	0.01	ISO 17025	0.41	< 0.01	2.77	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	0.42	< 0.01	16.7	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	6.3	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	42.1	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	34.4	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	22	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	20.2	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	27.6	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	10.2	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	25.5	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	12.7	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	3.31	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	15.2	< 0.01
Total PAH							
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	2.25	< 0.16	250	< 0.16
Heavy Metals / Metalloids							
Boron (dissolved)	µg/l	10	ISO 17025	2200	330	16000	1000
Calcium (dissolved)	mg/l	0.012	ISO 17025	400	110	260	490
Calcium (dissolved)	µg/l	12	ISO 17025	400000	110000	260000	490000
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.034	0.015	0.099	0.18
Mercury (dissolved)	µg/l	0.5	ISO 17025	< 0.5	-	-	-
Antimony (dissolved)	µg/l	0.4	ISO 17025	< 0.4	2.2	2.1	0.9
Arsenic (dissolved)	µg/l	0.15	ISO 17025	0.33	1.61	16	1.64
Cadmium (dissolved)	µg/l	0.02	ISO 17025	0.09	0.1	0.02	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	3.5	0.5	1.6	1
Copper (dissolved)	µg/l	0.5	ISO 17025	0.5	5.3	2.4	6.5

Analytical Report Number: 22-80661
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2404784	2404785	2404786	2404787
Sample Reference				BH104 (S)	BH104 (D)	BH105 (S)	BH105 (D)
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2022	23/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Lead (dissolved)	µg/l	0.2	ISO 17025	0.7	< 0.2	0.3	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	52	500	540	1400
Mercury (dissolved)	µg/l	0.05	ISO 17025	-	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	1.3	18	4.8	2.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	7.1	24	5.2	34
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	0.77	1.1	< 0.20	< 0.20
Zinc (dissolved)	µg/l	0.5	ISO 17025	1.9	22	2.2	7

Analytical Report Number: 22-80661
Project / Site name: BRM Area 4 GI

Your Order No: 20000322

Lab Sample Number				2404784	2404785	2404786	2404787
Sample Reference				BH104 (S)	BH104 (D)	BH105 (S)	BH105 (D)
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2022	23/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**				
Monoaromatics & Oxygenates							
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons							
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	40
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	160
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	200
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	100	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	140	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	250	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-80661
Project / Site name: BRM Area 4 GI

Water matrix abbreviations:
Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Metals in water by ICP-OES (dissolved)	Determination of metals in water by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW, PrW.(Al, Cu,Fe,Zn).	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
Metals in water by ICP-MS (dissolved)	Determination of metals in water by acidification followed by ICP-MS. Accredited Matrices: SW, GW, PW except B=SW,GW, Hg=SW,PW, Al=SW,PW.	In-house method based on USEPA Method 6020 & 200.8 "for the determination of trace elements in water by ICP-MS.	L012-PL	W	ISO 17025
Boron in water	Determination of boron in water by acidification followed by ICP-OES. Accredited matrices: SW PW GW	In-house method based on MEWAM	L039-PL	W	ISO 17025
Hexavalent chromium in water	Determination of hexavalent chromium in water by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method by continuous flow analyser. Accredited Matrices SW, GW, PW.	L080-PL	W	ISO 17025
Electrical conductivity at 20oC of water	Determination of electrical conductivity in water by electrometric measurement. Accredited Matrices SW, GW, PW	In-house method	L031-PL	W	ISO 17025
Monohydric phenols in water	Determination of phenols in water by continuous flow analyser. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	ISO 17025
Nitrate in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Speciated EPA-16 PAHs in water	Determination of PAH compounds in water by extraction in dichloromethane followed by GC-MS with the use of surrogate and internal standards. Accredited matrices: SW PW GW	In-house method based on USEPA 8270	L102B-PL	W	ISO 17025
Sulphide in water	Determination of sulphide in water by ion selective electrode.	In-house method	L029-PL	W	NONE
Sulphate in water	Determination of sulphate in water after filtration by acidification followed by ICP-OES. Accredited Matrices SW, GW, PW.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L039-PL	W	ISO 17025
TPHCWG (Waters)	Determination of dichloromethane extractable hydrocarbons in water by GC-MS, speciation by interpretation.	In-house method	L070-PL	W	ISO 17025
Total cyanide in water	Determination of total cyanide by distillation followed by colorimetry. Accredited matrices: SW PW GW	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	ISO 17025
Dissolved Organic Carbon in water	Determination of dissolved inorganic carbon in water by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	ISO 17025
BTEX and MTBE in water (Monoaromatics)	Determination of BTEX and MTBE in water by headspace GC-MS. Accredited matrices: SW PW GW	In-house method based on USEPA8260	L073B-PL	W	ISO 17025
Exchangeable Ammonium as NH4 in water	Determination of Ammonium/Ammonia/ Ammoniacal Nitrogen by the colorimetric salicylate/nitroprusside method. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L082-PL	W	ISO 17025
Nitrate as N in water	Determination of nitrate by reaction with sodium salicylate and colorimetry. Accredited matrices SW, GW, PW.	In-house method based on Examination of Water and Wastewatern & Polish Standard Method PN-82/C-04579.08,	L078-PL	W	ISO 17025
Cr (III) in water	In-house method by calculation from total Cr and Cr VI.	In-house method by calculation	L080-PL	W	NONE

Analytical Report Number : 22-80661
Project / Site name: BRM Area 4 GI

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
pH at 20oC in water (automated)	Determination of pH in water by electrometric measurement. Accredited matrices: SW PW GW	In house method.	L099-PL	W	ISO 17025
Salinity in Water	Determination of salinity of water by electrometric measurement.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L031-PL	W	NONE
Alkalinity in Water (by discreet analyser)	Determination of Alkalinity by discreet analyser (colorimetry). Accredited matrices: SW, PW, GW.	In house method based on MEWAM & USEPA Method 310.2.	L082-PL	W	ISO 17025

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.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
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MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Analytical Report Number : 22-80661
Project / Site name: BRM Area 4 GI

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
BH104 (D)	None Supplied	W	2404785	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH104 (D)	None Supplied	W	2404785	c	Electrical conductivity at 20oC of water	L031-PL	c
BH104 (D)	None Supplied	W	2404785	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH104 (D)	None Supplied	W	2404785	c	Nitrate as N in water	L078-PL	c
BH104 (D)	None Supplied	W	2404785	c	Nitrate in water	L078-PL	c
BH104 (D)	None Supplied	W	2404785	c	pH at 20oC in water (automated)	L099-PL	c
BH104 (S)	None Supplied	W	2404784	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH104 (S)	None Supplied	W	2404784	c	Electrical conductivity at 20oC of water	L031-PL	c
BH104 (S)	None Supplied	W	2404784	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH104 (S)	None Supplied	W	2404784	c	Nitrate as N in water	L078-PL	c
BH104 (S)	None Supplied	W	2404784	c	Nitrate in water	L078-PL	c
BH104 (S)	None Supplied	W	2404784	c	pH at 20oC in water (automated)	L099-PL	c
BH105 (D)	None Supplied	W	2404787	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH105 (D)	None Supplied	W	2404787	c	Electrical conductivity at 20oC of water	L031-PL	c
BH105 (D)	None Supplied	W	2404787	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH105 (D)	None Supplied	W	2404787	c	Nitrate as N in water	L078-PL	c
BH105 (D)	None Supplied	W	2404787	c	Nitrate in water	L078-PL	c
BH105 (D)	None Supplied	W	2404787	c	pH at 20oC in water (automated)	L099-PL	c
BH105 (S)	None Supplied	W	2404786	c	Ammoniacal Nitrogen as N in water	L082-PL	c
BH105 (S)	None Supplied	W	2404786	c	Electrical conductivity at 20oC of water	L031-PL	c
BH105 (S)	None Supplied	W	2404786	c	Exchangeable Ammonium as NH4 in water	L082-PL	c
BH105 (S)	None Supplied	W	2404786	c	Nitrate as N in water	L078-PL	c
BH105 (S)	None Supplied	W	2404786	c	Nitrate in water	L078-PL	c
BH105 (S)	None Supplied	W	2404786	c	pH at 20oC in water (automated)	L099-PL	c

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Analytical Report Number : 22-72259

Project / Site name:	BRM Area 4 GI	**Samples received on:**	15/07/2022
Your job number:	852504	**Samples instructed on/ Analysis started on:**	19/07/2022
Your order number:	TBC	**Analysis completed by:**	27/07/2022
Report Issue Number:	1	**Report issued on:**	27/07/2022
Samples Analysed:	12 10:1 WAC Samples		

Martyna Langer

Signed:

Martyna Langer
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**							
					Client:	**WOODPLC**		
Location	**BRM Area 4 GI**							
Lab Reference (Sample Number)	2355381 / 2355382				**Landfill Waste Acceptance Criteria Limits**			
Sampling Date	15/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
Sample ID	BH101C							
Depth (m)	1.90							
Solid Waste Analysis								
TOC (%)**	4.7				3%	5%	6%	
Loss on Ignition (%) **	9.2				--	--	10%	
BTEX (µg/kg) **	< 10				6000	--	--	
Sum of PCBs (mg/kg) **	0.030				1	--	--	
Mineral Oil (mg/kg) EH_1D_CU_AL	390				500	--	--	
Total PAH (WAC-17) (mg/kg)	36.5				100	--	--	
pH (units)**	11.5				--	>6	--	
Acid Neutralisation Capacity (mmol / kg)	130				--	To be evaluated	To be evaluated	
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test			
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)			
Arsenic *	0.0032			0.0241	0.5	2	25	
Barium *	0.0477			0.359	20	100	300	
Cadmium *	< 0.0001			< 0.0008	0.04	1	5	
Chromium *	0.0015			0.012	0.5	10	70	
Copper *	0.030			0.22	2	50	100	
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2	
Molybdenum *	0.0018			0.0137	0.5	10	30	
Nickel *	0.0055			0.041	0.4	10	40	
Lead *	0.0020			0.015	0.5	10	50	
Antimony *	< 0.0017			< 0.017	0.06	0.7	5	
Selenium *	< 0.0040			< 0.040	0.1	0.5	7	
Zinc *	0.0077			0.058	4	50	200	
Chloride *	55			420	800	15000	25000	
Fluoride	0.15			1.1	10	150	500	
Sulphate *	28			210	1000	20000	50000	
TDS*	520			3900	4000	60000	100000	
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-	
DOC	18.1			137	500	800	1000	
Leach Test Information								
Stone Content (%)	< 0.1							
Sample Mass (kg)	0.60							
Dry Matter (%)	76							
Moisture (%)	24							

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355383 / 2355384				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	12/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH103						
Depth (m)	1.00						
Solid Waste Analysis							
TOC (%)**	0.9				3%	5%	6%
Loss on Ignition (%) **	2.1				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	7.02				100	--	--
pH (units)**	7.9				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	6.7				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0029			0.0247	0.5	2	25
Barium *	0.0177			0.150	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0010			0.0080	0.5	10	70
Copper *	0.012			0.099	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0057			0.0480	0.5	10	30
Nickel *	0.0033			0.028	0.4	10	40
Lead *	0.0053			0.045	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.0057			0.048	4	50	200
Chloride *	2.2			18	800	15000	25000
Fluoride	0.31			2.6	10	150	500
Sulphate *	23			200	1000	20000	50000
TDS*	66			560	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.02			33.9	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	86						
Moisture (%)	14						

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355385 / 2355386				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	13/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH104						
Depth (m)	0.40						
Solid Waste Analysis							
TOC (%)**	1.6				3%	5%	6%
Loss on Ignition (%) **	4.3				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	98				500	--	--
Total PAH (WAC-17) (mg/kg)	29.8				100	--	--
pH (units)**	8.6				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	10				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0358			0.326	0.5	2	25
Barium *	0.0171			0.155	20	100	300
Cadmium *	0.0003			0.0026	0.04	1	5
Chromium *	0.0021			0.019	0.5	10	70
Copper *	0.015			0.14	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0023			0.0210	0.5	10	30
Nickel *	0.0041			0.037	0.4	10	40
Lead *	0.17			1.6	0.5	10	50
Antimony *	0.25			2.3	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.054			0.49	4	50	200
Chloride *	2.2			20	800	15000	25000
Fluoride	0.65			5.9	10	150	500
Sulphate *	11			96	1000	20000	50000
TDS*	55			500	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.93			44.9	500	800	1000
Leach Test Information							
Stone Content (%)	40						
Sample Mass (kg)	0.80						
Dry Matter (%)	95						
Moisture (%)	5.2						

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355387 / 2355388				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	13/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	BH105						
Depth (m)	0.90						
Solid Waste Analysis							
TOC (%)**	1.4				3%	5%	6%
Loss on Ignition (%) **	3.4				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	22.0				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	4.8				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0545			0.494	0.5	2	25
Barium *	0.0975			0.884	20	100	300
Cadmium *	0.0003			0.0023	0.04	1	5
Chromium *	0.0015			0.014	0.5	10	70
Copper *	0.027			0.24	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0103			0.0934	0.5	10	30
Nickel *	0.0064			0.058	0.4	10	40
Lead *	0.24			2.2	0.5	10	50
Antimony *	1.4			13	0.06	0.7	5
Selenium *	0.013			0.12	0.1	0.5	7
Zinc *	0.10			0.94	4	50	200
Chloride *	3.6			33	800	15000	25000
Fluoride	0.71			6.4	10	150	500
Sulphate *	51			460	1000	20000	50000
TDS*	120			1100	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.17			56.0	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	91						
Moisture (%)	8.8						

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355389 / 2355390				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	15/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP101						
Depth (m)	0.10						
Solid Waste Analysis							
TOC (%)**	3.0				3%	5%	6%
Loss on Ignition (%) **	5.5				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	270				500	--	--
Total PAH (WAC-17) (mg/kg)	309				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	3.7				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0238			0.204	0.5	2	25
Barium *	0.0165			0.141	20	100	300
Cadmium *	0.0002			0.0019	0.04	1	5
Chromium *	0.0027			0.023	0.5	10	70
Copper *	0.041			0.35	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0040			0.0345	0.5	10	30
Nickel *	0.011			0.098	0.4	10	40
Lead *	0.0067			0.058	0.5	10	50
Antimony *	0.036			0.30	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.015			0.13	4	50	200
Chloride *	2.4			20	800	15000	25000
Fluoride	0.26			2.2	10	150	500
Sulphate *	3.7			31	1000	20000	50000
TDS*	79			670	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	19.3			165	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	93						
Moisture (%)	7.4						

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355391 / 2355392				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	15/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP101						
Depth (m)	1.60						
Solid Waste Analysis							
TOC (%)**	2.5				3%	5%	6%
Loss on Ignition (%) **	8.9				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	220				500	--	--
Total PAH (WAC-17) (mg/kg)	10.9				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	8.3				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0118			0.0711	0.5	2	25
Barium *	0.0241			0.145	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0028			0.017	0.5	10	70
Copper *	0.011			0.066	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0110			0.0664	0.5	10	30
Nickel *	0.0063			0.038	0.4	10	40
Lead *	0.0072			0.043	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.013			0.076	4	50	200
Chloride *	93			560	800	15000	25000
Fluoride	0.57			3.4	10	150	500
Sulphate *	110			690	1000	20000	50000
TDS*	380			2300	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	11.0			66.0	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	66						
Moisture (%)	34						

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355393 / 2355394				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	15/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP102						
Depth (m)	3.50						
Solid Waste Analysis							
TOC (%)**	3.3				3%	5%	6%
Loss on Ignition (%) **	7.3				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	450				500	--	--
Total PAH (WAC-17) (mg/kg)	47.2				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	23				--	To be evaluated	To be evaluated
Eluate Analysis (BS EN 12457 - 2 preparation utilising end over end leaching procedure)	10:1 mg/l			10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0111			0.0659	0.5	2	25
Barium *	0.0249			0.147	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0010			0.0059	0.5	10	70
Copper *	0.028			0.17	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0158			0.0936	0.5	10	30
Nickel *	0.0090			0.053	0.4	10	40
Lead *	0.0032			0.019	0.5	10	50
Antimony *	0.017			0.10	0.06	0.7	5
Selenium *	0.010			0.060	0.1	0.5	7
Zinc *	0.016			0.093	4	50	200
Chloride *	290			1700	800	15000	25000
Fluoride	0.60			3.6	10	150	500
Sulphate *	180			1100	1000	20000	50000
TDS*	830			4900	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	12.1			71.4	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.60						
Dry Matter (%)	69						
Moisture (%)	31						

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355395 / 2355396				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	15/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	TP103						
Depth (m)	0.70						
Solid Waste Analysis							
TOC (%)**	1.0				3%	5%	6%
Loss on Ignition (%) **	3.0				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	150				500	--	--
Total PAH (WAC-17) (mg/kg)	37.8				100	--	--
pH (units)**	8.0				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	6.6				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0303			0.289	0.5	2	25
Barium *	0.0233			0.222	20	100	300
Cadmium *	0.0002			0.0021	0.04	1	5
Chromium *	0.0030			0.028	0.5	10	70
Copper *	0.023			0.22	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0026			0.0247	0.5	10	30
Nickel *	0.0060			0.058	0.4	10	40
Lead *	0.21			2.0	0.5	10	50
Antimony *	0.21			2.0	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.091			0.87	4	50	200
Chloride *	3.0			29	800	15000	25000
Fluoride	0.85			8.1	10	150	500
Sulphate *	7.1			68	1000	20000	50000
TDS*	50			470	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.63			53.7	500	800	1000
Leach Test Information							
Stone Content (%)	69						
Sample Mass (kg)	0.80						
Dry Matter (%)	95						
Moisture (%)	5.3						

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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355397 / 2355398				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	14/07/2002				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS102						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	0.3				3%	5%	6%
Loss on Ignition (%) **	1.2				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	4.15				100	--	--
pH (units)**	8.3				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	14				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0054			0.0519	0.5	2	25
Barium *	0.0071			0.0688	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0009			0.0084	0.5	10	70
Copper *	0.0061			0.059	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0010			0.0097	0.5	10	30
Nickel *	0.0037			0.035	0.4	10	40
Lead *	0.0042			0.041	0.5	10	50
Antimony *	< 0.0017			< 0.017	0.06	0.7	5
Selenium *	0.0056			0.054	0.1	0.5	7
Zinc *	0.0063			0.061	4	50	200
Chloride *	1.1			11	800	15000	25000
Fluoride	0.24			2.3	10	150	500
Sulphate *	1.7			17	1000	20000	50000
TDS*	28			270	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	4.73			45.7	500	800	1000
Leach Test Information							
Stone Content (%)	78						
Sample Mass (kg)	0.80						
Dry Matter (%)	98						
Moisture (%)	1.6						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
*= UKAS accredited (liquid eluate analysis only)
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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355399 / 2355400				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	14/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS103						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	1.1				3%	5%	6%
Loss on Ignition (%) **	3.6				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	30.0				100	--	--
pH (units)**	8.2				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	11				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0176			0.158	0.5	2	25
Barium *	0.0142			0.128	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0018			0.016	0.5	10	70
Copper *	0.014			0.13	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0029			0.0261	0.5	10	30
Nickel *	0.0046			0.041	0.4	10	40
Lead *	0.064			0.58	0.5	10	50
Antimony *	0.082			0.73	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.026			0.23	4	50	200
Chloride *	1.2			11	800	15000	25000
Fluoride	0.73			6.5	10	150	500
Sulphate *	3.4			30	1000	20000	50000
TDS*	39			350	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	5.49			49.2	500	800	1000
Leach Test Information							
Stone Content (%)	25						
Sample Mass (kg)	0.80						
Dry Matter (%)	91						
Moisture (%)	8.6						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355401 / 2355402				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	14/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS103						
Depth (m)	1.20						
Solid Waste Analysis							
TOC (%)**	1.2				3%	5%	6%
Loss on Ignition (%) **	3.0				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	< 10				500	--	--
Total PAH (WAC-17) (mg/kg)	56.0				100	--	--
pH (units)**	8.4				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	7.3				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0228			0.201	0.5	2	25
Barium *	0.0190			0.168	20	100	300
Cadmium *	< 0.0001			< 0.0008	0.04	1	5
Chromium *	0.0017			0.015	0.5	10	70
Copper *	0.029			0.25	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0037			0.0330	0.5	10	30
Nickel *	0.0061			0.054	0.4	10	40
Lead *	0.032			0.28	0.5	10	50
Antimony *	0.18			1.6	0.06	0.7	5
Selenium *	< 0.0040			< 0.040	0.1	0.5	7
Zinc *	0.016			0.14	4	50	200
Chloride *	1.5			13	800	15000	25000
Fluoride	1.3			12	10	150	500
Sulphate *	5.1			45	1000	20000	50000
TDS*	53			470	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	6.73			59.5	500	800	1000
Leach Test Information							
Stone Content (%)	< 0.1						
Sample Mass (kg)	0.80						
Dry Matter (%)	96						
Moisture (%)	3.8						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
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Waste Acceptance Criteria Analytical Results

Report No:	**22-72259**						
					Client:	**WOODPLC**	
Location	**BRM Area 4 GI**						
Lab Reference (Sample Number)	2355403 / 2355404				**Landfill Waste Acceptance Criteria Limits**		
Sampling Date	15/07/2022				Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID	WS106						
Depth (m)	0.50						
Solid Waste Analysis							
TOC (%)**	2.4				3%	5%	6%
Loss on Ignition (%) **	5.8				--	--	10%
BTEX (µg/kg) **	< 10				6000	--	--
Sum of PCBs (mg/kg) **	< 0.007				1	--	--
Mineral Oil (mg/kg) EH_1D_CU_AL	62				500	--	--
Total PAH (WAC-17) (mg/kg)	20.6				100	--	--
pH (units)**	8.1				--	>6	--
Acid Neutralisation Capacity (mmol / kg)	12				--	To be evaluated	To be evaluated
Eluate Analysis	10:1			10:1	Limit values for compliance leaching test		
(BS EN 12457 - 2 preparation utilising end over end leaching procedure)	mg/l			mg/kg	using BS EN 12457-2 at L/S 10 l/kg (mg/kg)		
Arsenic *	0.0183			0.162	0.5	2	25
Barium *	0.0155			0.137	20	100	300
Cadmium *	0.0002			0.0015	0.04	1	5
Chromium *	0.0017			0.015	0.5	10	70
Copper *	0.030			0.27	2	50	100
Mercury *	< 0.0005			< 0.0050	0.01	0.2	2
Molybdenum *	0.0050			0.0441	0.5	10	30
Nickel *	0.0074			0.066	0.4	10	40
Lead *	0.031			0.28	0.5	10	50
Antimony *	0.093			0.82	0.06	0.7	5
Selenium *	0.0071			0.063	0.1	0.5	7
Zinc *	0.017			0.15	4	50	200
Chloride *	2.6			23	800	15000	25000
Fluoride	0.26			2.3	10	150	500
Sulphate *	7.6			67	1000	20000	50000
TDS*	70			620	4000	60000	100000
Phenol Index (Monohydric Phenols) *	< 0.010			< 0.10	1	-	-
DOC	11.3			100	500	800	1000
Leach Test Information							
Stone Content (%)	13						
Sample Mass (kg)	0.60						
Dry Matter (%)	93						
Moisture (%)	7.4						

Results are expressed on a dry weight basis, after correction for moisture content where applicable.
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Analytical Report Number : 22-72259
Project / Site name: BRM Area 4 GI

* 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 *
2355381	BH101C	None Supplied	1.9	Brown sand with gravel and fibrous material.
2355383	BH103	None Supplied	1	Brown sand with gravel.
2355385	BH104	None Supplied	0.4	Brown sand with gravel and stones.
2355387	BH105	None Supplied	0.9	Brown clay and sand with gravel.
2355389	TP101	None Supplied	0.1	Brown loam and clay with gravel and vegetation.
2355391	TP101	None Supplied	1.6	Brown clay and sand with gravel.
2355393	TP102	None Supplied	3.5	Brown clay and sand with gravel.
2355395	TP103	None Supplied	0.7	Brown sand with gravel and stones.
2355397	WS102	None Supplied	0.5	Beige sand with gravel and stones.
2355399	WS103	None Supplied	0.5	Brown sand with gravel and stones.
2355401	WS103	None Supplied	1.2	Brown clay and sand with gravel.
2355403	WS106	None Supplied	0.5	Brown sand with gravel and stones.

Analytical Report Number : 22-72259
Project / Site name: BRM Area 4 GI

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
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance""	L046-PL	W	NONE
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil""	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025

Analytical Report Number : 22-72259
Project / Site name: BRM Area 4 GI

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
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
_	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total

Sample Deviation Report

Analytical Report Number : 22-72259
Project / Site name: BRM Area 4 GI

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
BH101C	None Supplied	S	2355381	b	BTEX in soil (Monoaromatics)	L073B-PL	b
BH101C	None Supplied	S	2355381	b	Mineral Oil (Soil) C10 - C40	L076-PL	b
BH101C	None Supplied	S	2355381	b	PCB's By GC-MS in soil	L027-PL	b
BH101C	None Supplied	S	2355381	b	Speciated WAC-17 PAHs in soil	L064-PL	b
BH101C	None Supplied	S	2355381	b	Total BTEX in soil (Poland)	L073-PL	b
TP102	None Supplied	S	2355393	b	BTEX in soil (Monoaromatics)	L073B-PL	b
TP102	None Supplied	S	2355393	b	Mineral Oil (Soil) C10 - C40	L076-PL	b
TP102	None Supplied	S	2355393	b	PCB's By GC-MS in soil	L027-PL	b
TP102	None Supplied	S	2355393	b	Speciated WAC-17 PAHs in soil	L064-PL	b
TP102	None Supplied	S	2355393	b	Total BTEX in soil (Poland)	L073-PL	b
WS102	None Supplied	S	2355397	c	Acid neutralisation capacity of soil	L046-PL	c
WS102	None Supplied	S	2355397	c	BTEX in soil (Monoaromatics)	L073B-PL	c
WS102	None Supplied	S	2355397	c	Loss on ignition of soil @ 450oC	L047-PL	c
WS102	None Supplied	S	2355397	c	Mineral Oil (Soil) C10 - C40	L076-PL	c
WS102	None Supplied	S	2355397	c	Organic matter (Automated) in soil	L009-PL	c
WS102	None Supplied	S	2355397	c	PCB's By GC-MS in soil	L027-PL	c
WS102	None Supplied	S	2355397	c	Speciated WAC-17 PAHs in soil	L064-PL	c
WS102	None Supplied	S	2355397	c	Total BTEX in soil (Poland)	L073-PL	c
WS102	None Supplied	S	2355397	c	Total organic carbon (Automated) in soil	L009-PL	c
WS102	None Supplied	S	2355397	c	pH at 20oC in soil	L005-PL	c
WS106	None Supplied	S	2355403	b	BTEX in soil (Monoaromatics)	L073B-PL	b
WS106	None Supplied	S	2355403	b	Mineral Oil (Soil) C10 - C40	L076-PL	b
WS106	None Supplied	S	2355403	b	PCB's By GC-MS in soil	L027-PL	b
WS106	None Supplied	S	2355403	b	Speciated WAC-17 PAHs in soil	L064-PL	b
WS106	None Supplied	S	2355403	b	Total BTEX in soil (Poland)	L073-PL	b

Appendix D
Summary chemical analysis results: soil and groundwater

Project / Site name: BRM Area 4 GI

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Lab Sample Number				2355307	2355308	2355309	2355310	2355311	2355312	2355313
Sample Reference				HP101	HP102	BH101A	BH101C	BH102	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30	0.90	0.40
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	15/07/2022	12/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	%	0.1	NONE	68	76	< 0.1	< 0.1	48	26	36
Moisture Content	%	0.01	NONE	0.94	6.6	15	24	4.2	18	6.2
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.6	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected	-	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	-	-	-	-	-
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	-	-	-	-	-	-	-
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	-	-	-	-	-	-	-
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	SZS	N/A	SZS	SZS	SZS
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS							
Complex Cyanide	mg/kg	1	MCERTS							
pH - Automated	pH Units	N/A	MCERTS	9.5	7.9	8.6	7.9	9	8.7	9.5
Total Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	0.5	4.7	3.4	0.6	2.4
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS							
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS							
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS							
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS							
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS							
Total Phenols										
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	-	< 1.0	-	-
Speciated PAHs										
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	0.25	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.27	0.34	< 0.05	0.27
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.46	0.33	< 0.05	0.2

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355307	2355308	2355309	2355310	2355311	2355312	2355313
Sample Reference				HP101	HP102	BH101A	BH101C	BH102	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30	0.90	0.40
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	15/07/2022	12/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.2	0.41	< 0.05	0.21
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.3	3	0.24	1.4
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.4	0.9	< 0.05	0.51
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.48	7	5.9	0.36	3.6
Pyrene	mg/kg	0.05	MCERTS	-	-	0.48	5.5	5.2	0.38	3.3
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.5	3.3	0.12	2
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.4	2.8	0.21	1.9
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	3	4	< 0.05	2.8
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.9	1.7	< 0.05	1.3
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.2	3.4	< 0.05	2.5
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.3	1.8	< 0.05	1.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	0.49	< 0.05	0.34
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.7	2.3	< 0.05	1.7
Total PAH										
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	0.96	36.2	36.2	1.31	23.3
Heavy Metals / Metalloids										
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	11	39	580	6.3	27
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	8.5	46	100	9.7	18
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	1.2	4.9	11	0.6	2.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	0.7	5.1	7	< 0.2	1.4
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	< 1.8	U/S	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	-	-	36	91	U/S	11	24
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	36	91	33	12	25
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	28	130	510	19	44
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	150	490	7700	64	540
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	0.3	3.3	< 0.3	< 0.3	0.5
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	9.8	45	87	7.1	16
Silver (aqua regia extractable)	mg/kg	1	NONE	-	-	2.1	6.3	35	< 1.0	2.1
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	4.1	25	120	2.6	8.9
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	100	520	3600	73	170
Monoaromatics & Oxygenates										
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355307	2355308	2355309	2355310	2355311	2355312	2355313
Sample Reference				HP101	HP102	BH101A	BH101C	BH102	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30	0.90	0.40
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	15/07/2022	12/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons										
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	8.2	< 1.0	< 1.0	6.1	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	30	7.1	6.7	40	5.4	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	69	10	15	94	13	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	130	77	55	230	100	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	240	94	77	370	120	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	21	5.8	< 2.0	8.2	3.1	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	130	15	< 10	62	16	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	310	58	16	150	130	< 10	25
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	460	79	22	220	150	< 10	33
VOCs										
Chloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
Chloroethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-	-	-
Bromomethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
Vinyl Chloride	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355307	2355308	2355309	2355310	2355311	2355312	2355313
Sample Reference				HP101	HP102	BH101A	BH101C	BH102	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30	0.90	0.40
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	15/07/2022	12/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Trichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-	-	-
Benzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Trichloroethene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Dibromomethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
Toluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
Tetrachloroethene	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Styrene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Tribromomethane	µg/kg	1	NONE	-	-	< 1.0	< 1.0	-	-	-
o-Xylene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Bromobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355307	2355308	2355309	2355310	2355311	2355312	2355313
Sample Reference				HP101	HP102	BH101A	BH101C	BH102	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30	0.90	0.40
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	15/07/2022	12/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Butylbenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	-	-	-
SVOCs										
Aniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	-	-	< 0.2	< 0.2	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	-	-	< 0.2	< 0.2	-	-	-
Isophorone	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355307	2355308	2355309	2355310	2355311	2355312	2355313
Sample Reference				HP101	HP102	BH101A	BH101C	BH102	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30	0.90	0.40
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	15/07/2022	12/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	< 0.1	< 0.1	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	< 0.1	< 0.1	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.27	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.46	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	< 0.3	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.2	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.3	-	-	-
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.4	-	-	-
Carbazole	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.48	7	-	-	-
Pyrene	mg/kg	0.05	MCERTS	-	-	0.48	5.5	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	< 0.3	< 0.3	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.5	-	-	-
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	2.4	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	3	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.9	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.2	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.3	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	< 0.05	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.7	-	-	-
PCBs by GC-MS										
PCB Congener 28	mg/kg	0.001	MCERTS							
PCB Congener 52	mg/kg	0.001	MCERTS							
PCB Congener 101	mg/kg	0.001	MCERTS							

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Lab Sample Number				2355307	2355308	2355309	2355310	2355311	2355312	2355313
Sample Reference				HP101	HP102	BH101A	BH101C	BH102	BH102	BH103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.30	0.50	0.60	1.90	0.30	0.90	0.40
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	15/07/2022	12/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
PCB Congener 118	mg/kg	0.001	MCERTS							
PCB Congener 138	mg/kg	0.001	MCERTS							
PCB Congener 153	mg/kg	0.001	MCERTS							
PCB Congener 180	mg/kg	0.001	MCERTS							
Total PCBs by GC-MS										
Total PCBs	mg/kg	0.007	MCERTS							

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Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Lab Sample Number				2355314	2355315	2355316	2355317	2355318	2355319	2355320
Sample Reference				BH103	BH104	BH105	TP101	TP101	TP101	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.40	0.90	0.10	0.60	1.60	0.90
Date Sampled				12/07/2022	13/07/2022	13/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	%	0.1	NONE	< 0.1	40	< 0.1	< 0.1	39	< 0.1	37
Moisture Content	%	0.01	NONE	14	5.2	8.8	7.4	3.6	34	6.9
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8	0.8	0.6
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	-	-	Anthophyllite	-	-	-	Anthophyllite
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Detected	Not-detected	Not-detected	-	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	-	-	0.018	-	-	-	< 0.001
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	-	-	0.002	-	-	-	< 0.001
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	-	-	0.02	-	-	-	0.001
Asbestos Analyst ID	N/A	N/A	N/A	SZS	SZS	MWI	SSZ	SSZ	N/A	MWI
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS							
Complex Cyanide	mg/kg	1	MCERTS							
pH - Automated	pH Units	N/A	MCERTS	8.2	9.2	8.3	10.1	11.8	11.3	9
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	0.9	1.6	1.4	3.4	1.4	-	2.2
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS							
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS							
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS							
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS							
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS							
Total Phenols										
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	-	-	< 1.0
Speciated PAHs										
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.29	< 0.05	1	< 0.05	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.58	< 0.05	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.22	< 0.05	6.6	< 0.05	-	< 0.05

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Lab Sample Number				2355314	2355315	2355316	2355317	2355318	2355319	2355320
Sample Reference				BH103	BH104	BH105	TP101	TP101	TP101	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.40	0.90	0.10	0.60	1.60	0.90
Date Sampled				12/07/2022	13/07/2022	13/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	6.8	< 0.05	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	2.6	1.9	49	0.63	-	2.1
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.59	0.65	18	< 0.05	-	0.49
Fluoranthene	mg/kg	0.05	MCERTS	1.2	4.9	4	50	1.2	-	4.8
Pyrene	mg/kg	0.05	MCERTS	1.1	4.2	3.4	46	1.3	-	4.4
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.53	3	2.2	29	0.62	-	2.9
Chrysene	mg/kg	0.05	MCERTS	0.83	2.4	1.7	20	0.71	-	2.1
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.72	3.3	1.8	30	0.75	-	2.6
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.55	1.4	1.3	8.1	0.55	-	1.6
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.71	2.8	2.1	24	0.78	-	2.6
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.33	1.4	0.99	10	0.33	-	1.6
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.42	< 0.05	2.9	< 0.05	-	0.51
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.44	1.8	1.3	12	0.51	-	1.9
Total PAH										
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	6.37	29.3	21.3	314	7.29	-	27.4
Heavy Metals / Metalloids										
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	27	850	83	18	5.6	6.4	150
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	16	140	41	23	6.4	19	94
Boron (water soluble)	mg/kg	0.2	MCERTS	4.5	3.4	39	2.1	1.4	3.4	19
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	1.7	11	1.9	1	1.1	1.8	4.7
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	U/S	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	23	U/S	29	36	22	31	31
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	23	28	30	38	23	32	32
Copper (aqua regia extractable)	mg/kg	1	MCERTS	41	270	57	49	32	49	120
Lead (aqua regia extractable)	mg/kg	1	MCERTS	490	22000	1300	480	78	130	3500
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.6	< 0.3	0.8	0.5	< 0.3	< 0.3	0.7
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	30	19	26	14	17	27
Silver (aqua regia extractable)	mg/kg	1	NONE	3.9	210	6.9	1.3	< 1.0	1.5	14
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	9.5	63	18	7.8	6.7	8.2	48
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	180	5000	410	150	260	190	710
Monoaromatics & Oxygenates										
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0

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Lab Sample Number				2355314	2355315	2355316	2355317	2355318	2355319	2355320
Sample Reference				BH103	BH104	BH105	TP101	TP101	TP101	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.40	0.90	0.10	0.60	1.60	0.90
Date Sampled				12/07/2022	13/07/2022	13/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	< 1.0
Petroleum Hydrocarbons										
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	11	< 1.0	-	7.6
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	7.1	< 2.0	38	5.5	-	14
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	10	< 8.0	82	12	-	47
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	56	< 8.0	200	110	-	110
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10	73	< 10	330	130	-	180
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	8.9	< 1.0	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	38	8.3	-	8
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	< 10	16	13	200	18	-	31
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	17	68	27	470	87	-	62
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	24	84	39	720	110	-	100
VOCs										
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
Chloroethane	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	-	-	-
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
Vinyl Chloride	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-

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Lab Sample Number				2355314	2355315	2355316	2355317	2355318	2355319	2355320
Sample Reference				BH103	BH104	BH105	TP101	TP101	TP101	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.40	0.90	0.10	0.60	1.60	0.90
Date Sampled				12/07/2022	13/07/2022	13/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	-	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
Tetrachloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Tribromomethane	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0	-	-	-
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-

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Lab Sample Number				2355314	2355315	2355316	2355317	2355318	2355319	2355320
Sample Reference				BH103	BH104	BH105	TP101	TP101	TP101	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.40	0.90	0.10	0.60	1.60	0.90
Date Sampled				12/07/2022	13/07/2022	13/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0	-	-	-
SVOCs										
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-	-	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	-	< 0.2	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	3.4	-	-	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	0.7	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.29	-	1	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-

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Lab Sample Number				2355314	2355315	2355316	2355317	2355318	2355319	2355320
Sample Reference				BH103	BH104	BH105	TP101	TP101	TP101	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.40	0.90	0.10	0.60	1.60	0.90
Date Sampled				12/07/2022	13/07/2022	13/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	0.4	-	2.1	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	0.58	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	0.22	-	6.6	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	6.3	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	-	< 0.3	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	6.8	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	2.6	-	49	-	-	-
Anthracene	mg/kg	0.05	MCERTS	< 0.05	0.59	-	18	-	-	-
Carbazole	mg/kg	0.3	MCERTS	< 0.3	0.3	-	5.3	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	0.4	-	5	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	1.2	4.9	-	50	-	-	-
Pyrene	mg/kg	0.05	MCERTS	1.1	4.2	-	46	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	-	< 0.3	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	0.53	3	-	29	-	-	-
Chrysene	mg/kg	0.05	MCERTS	0.83	2.4	-	20	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	0.72	3.3	-	30	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	0.55	1.4	-	8.1	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	0.71	2.8	-	24	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	0.33	1.4	-	10	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.42	-	2.9	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	0.44	1.8	-	12	-	-	-
PCBs by GC-MS										
PCB Congener 28	mg/kg	0.001	MCERTS							
PCB Congener 52	mg/kg	0.001	MCERTS							
PCB Congener 101	mg/kg	0.001	MCERTS							

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Lab Sample Number				2355314	2355315	2355316	2355317	2355318	2355319	2355320
Sample Reference				BH103	BH104	BH105	TP101	TP101	TP101	TP102
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.00	0.40	0.90	0.10	0.60	1.60	0.90
Date Sampled				12/07/2022	13/07/2022	13/07/2022	15/07/2022	15/07/2022	15/07/2022	15/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
PCB Congener 118	mg/kg	0.001	MCERTS							
PCB Congener 138	mg/kg	0.001	MCERTS							
PCB Congener 153	mg/kg	0.001	MCERTS							
PCB Congener 180	mg/kg	0.001	MCERTS							
Total PCBs by GC-MS										
Total PCBs	mg/kg	0.007	MCERTS							

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Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Lab Sample Number				2355321	2355322	2355323	2355324	2355325	2355326	2355327
Sample Reference				TP103	TP104	WS101	WS101	WS102	WS102	WS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.70	0.50	1.00	0.50	1.00	0.50
Date Sampled				15/07/2022	15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	%	0.1	NONE	69	< 0.1	50	< 0.1	78	< 0.1	25
Moisture Content	%	0.01	NONE	5.3	33	2	20	1.6	16	8.6
Total mass of sample received	kg	0.001	NONE	0.8	0.6	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile & Amosite	Chrysotile	-	-	-	-	Chrysotile & Anthophyllite
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Detected	Not-detected	Not-detected	Not-detected	Not-detected	Detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	< 0.001	< 0.001	-	-	-	-	0.002
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	< 0.001	< 0.001	-	-	-	-	< 0.001
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	< 0.001	< 0.001	-	-	-	-	0.003
Asbestos Analyst ID	N/A	N/A	N/A	MLO	JSW	LFT	LFT	LFT	LFT	JSW
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS							
Complex Cyanide	mg/kg	1	MCERTS							
pH - Automated	pH Units	N/A	MCERTS	10.5	8.5	8.8	8.1	9	8.6	8.4
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1	2.9	0.4	0.5	0.3	1.3	1.1
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS							
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS							
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS							
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS							
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS							
Total Phenols										
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	-	-	< 1.0	< 1.0
Speciated PAHs										
Naphthalene	mg/kg	0.05	MCERTS	0.2	1.1	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	0.33	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.36	0.52	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

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Lab Sample Number				2355321	2355322	2355323	2355324	2355325	2355326	2355327
Sample Reference				TP103	TP104	WS101	WS101	WS102	WS102	WS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.70	0.50	1.00	0.50	1.00	0.50
Date Sampled				15/07/2022	15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Fluorene	mg/kg	0.05	MCERTS	0.35	0.43	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	3.5	2.8	< 0.05	< 0.05	0.33	0.93	2.6
Anthracene	mg/kg	0.05	MCERTS	0.83	0.84	< 0.05	< 0.05	< 0.05	0.55	0.88
Fluoranthene	mg/kg	0.05	MCERTS	6.7	5.6	< 0.05	0.34	0.73	3.1	5.4
Pyrene	mg/kg	0.05	MCERTS	5.7	4.8	< 0.05	0.39	0.74	2.5	4.7
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.6	3.4	< 0.05	0.2	0.29	1.5	3.8
Chrysene	mg/kg	0.05	MCERTS	2.7	2.6	< 0.05	0.25	0.45	1.2	2.3
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.7	3.9	< 0.05	< 0.05	0.3	0.83	2.4
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.6	1.8	< 0.05	< 0.05	0.24	0.79	1.9
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.2	3.6	< 0.05	< 0.05	0.38	1	2.7
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.1	2.2	< 0.05	< 0.05	< 0.05	0.37	1.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.56	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.4	2.6	< 0.05	< 0.05	< 0.05	0.54	1.6
Total PAH										
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	36.9	37	< 0.80	1.18	3.46	13.4	29.5
Heavy Metals / Metalloids										
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	200	29	3.8	3	11	11	74
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	66	33	4.2	10	6.6	8.5	44
Boron (water soluble)	mg/kg	0.2	MCERTS	12	38	0.5	0.4	0.7	0.3	0.7
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	3.6	3	0.3	0.5	0.4	0.4	2.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	28	50	13	12	7.7	11	25
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	28	52	13	13	8.6	12	26
Copper (aqua regia extractable)	mg/kg	1	MCERTS	76	73	12	10	18	10	65
Lead (aqua regia extractable)	mg/kg	1	MCERTS	3600	450	52	34	120	67	1200
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	2.2	< 0.3	0.5	0.4	< 0.3	0.9
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	31	6.5	7.5	5.9	6.2	19
Silver (aqua regia extractable)	mg/kg	1	NONE	16	7.1	< 1.0	< 1.0	< 1.0	1.2	10
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	27	19	2.4	2.9	4.1	3	19
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	640	320	32	56	51	50	370
Monoaromatics & Oxygenates										
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

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Lab Sample Number				2355321	2355322	2355323	2355324	2355325	2355326	2355327
Sample Reference				TP103	TP104	WS101	WS101	WS102	WS102	WS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.70	0.50	1.00	0.50	1.00	0.50
Date Sampled				15/07/2022	15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons										
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	5.7	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	24	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	37	64	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	42	93	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	27	24	< 10	< 10	< 10	11	16
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	110	70	< 10	< 10	22	26	42
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	140	94	< 10	< 10	31	38	58
VOCs										
Chloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
Chloroethane	µg/kg	1	NONE	< 1.0	-	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE	< 1.0	-	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	-	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355321	2355322	2355323	2355324	2355325	2355326	2355327
Sample Reference				TP103	TP104	WS101	WS101	WS102	WS102	WS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.70	0.50	1.00	0.50	1.00	0.50
Date Sampled				15/07/2022	15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	-	-	-	-	-	-
Benzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
Toluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE	< 1.0	-	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Styrene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE	< 1.0	-	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355321	2355322	2355323	2355324	2355325	2355326	2355327
Sample Reference				TP103	TP104	WS101	WS101	WS102	WS102	WS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.70	0.50	1.00	0.50	1.00	0.50
Date Sampled				15/07/2022	15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	-	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	-	-	-	-	-	-
SVOCs										
Aniline	mg/kg	0.1	NONE	< 0.1	-	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025	< 0.2	-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	-	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS	0.2	-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE	< 0.1	-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355321	2355322	2355323	2355324	2355325	2355326	2355327
Sample Reference				TP103	TP104	WS101	WS101	WS102	WS102	WS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.70	0.50	1.00	0.50	1.00	0.50
Date Sampled				15/07/2022	15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2-Methylnaphthalene	mg/kg	0.1	NONE	< 0.1	-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	-	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS	0.36	-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	-	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS	0.35	-	-	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS	3.5	-	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS	0.83	-	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	-	-	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	-	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS	6.7	-	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS	5.7	-	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	3.6	-	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS	2.7	-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	3.7	-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1.6	-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.2	-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.1	-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	-	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.4	-	-	-	-	-	-
PCBs by GC-MS										
PCB Congener 28	mg/kg	0.001	MCERTS							
PCB Congener 52	mg/kg	0.001	MCERTS							
PCB Congener 101	mg/kg	0.001	MCERTS							

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355321	2355322	2355323	2355324	2355325	2355326	2355327
Sample Reference				TP103	TP104	WS101	WS101	WS102	WS102	WS103
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.70	1.70	0.50	1.00	0.50	1.00	0.50
Date Sampled				15/07/2022	15/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022	14/07/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
PCB Congener 118	mg/kg	0.001	MCERTS							
PCB Congener 138	mg/kg	0.001	MCERTS							
PCB Congener 153	mg/kg	0.001	MCERTS							
PCB Congener 180	mg/kg	0.001	MCERTS							
Total PCBs by GC-MS										
Total PCBs	mg/kg	0.007	MCERTS							

Project / Site name: BRM Area 4 GI

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Lab Sample Number				2355328	2355329	2355330	2355331	2355332	2378216	2378217
Sample Reference				WS103	WS103	WS104	WS105	WS106	BH101c	BH101c
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	1.60	0.60	0.40	0.50	1.20	2.50
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	01/08/2022	02/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	%	0.1	NONE	< 0.1	66	29	19	13	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	3.8	5.3	5.3	0.63	7.4	15	33
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.6	1.1	1.2
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Chrysotile & Amosite	-	Chrysotile & Anthophyllite	-	Chrysotile & Anthophyllite		
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	Detected	Not-detected	Detected	Not-detected	-
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	0.002	-	0.001	-	0.001		
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025	< 0.001	-	< 0.001	-	< 0.001		
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025	0.003	-	0.001	-	0.001		
Asbestos Analyst ID	N/A	N/A	N/A	JSW	LFT	JSW	LFT	JSW	JMA	N/A
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS							
Complex Cyanide	mg/kg	1	MCERTS							
pH - Automated	pH Units	N/A	MCERTS	9.3	11.8	9.3	9.8	8.2	11.4	8.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.2	0.7	2.9	1.7	2.4	< 1.0	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS							
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS							
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS						16	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS						17	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS						-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS						-	2.5
Total Phenols										
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	< 1.0	-
Speciated PAHs										
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	-
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.37	< 0.05	< 0.05	-
Acenaphthene	mg/kg	0.05	MCERTS	0.42	0.35	< 0.05	< 0.05	< 0.05	< 0.05	-

Project / Site name: BRM Area 4 GI											
Lab Sample Number				2355328	2355329	2355330	2355331	2355332	2378216	2378217
Sample Reference				WS103	WS103	WS104	WS105	WS106	BH101c	BH101c
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	1.60	0.60	0.40	0.50	1.20	2.50
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	01/08/2022	02/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Fluorene	mg/kg	0.05	MCERTS	0.37	0.18	< 0.05	< 0.05	< 0.05	< 0.05	-
Phenanthrene	mg/kg	0.05	MCERTS	4.8	5.5	1.7	2.1	1.7	0.83	-
Anthracene	mg/kg	0.05	MCERTS	1.5	0.77	0.52	0.76	0.54	< 0.05	-
Fluoranthene	mg/kg	0.05	MCERTS	9.5	8.8	4.4	4.8	3.8	1.3	-
Pyrene	mg/kg	0.05	MCERTS	8.1	7.4	4.2	4.4	3.5	1.1	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS	6.5	4.6	2.8	3.3	2.1	0.64	-
Chrysene	mg/kg	0.05	MCERTS	4.4	3.5	2.2	2.5	1.7	0.52	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	4.7	4.2	2.8	4.2	1.8	0.48	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	3.2	2.3	1.6	1.5	1.2	0.33	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS	5.2	4	3	3.5	1.9	0.46	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	2.3	1.9	1.4	1.8	0.9	< 0.05	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	0.49	< 0.05	< 0.05	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.8	2.4	2	2.3	1.1	< 0.05	-
Total PAH										
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	53.9	46	26.4	32	20.3	5.59	-
Heavy Metals / Metalloids										
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	260	700	470	8.6	65	4	-
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	130	650	210	13	44	7.9	-
Boron (water soluble)	mg/kg	0.2	MCERTS	4.2	1.4	2.7	0.5	4.7	4.2	-
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	0.7	3.5	1	-
Chromium (hexavalent)	mg/kg	1.8	MCERTS	2.5	U/S	U/S	< 1.8	< 1.8	< 1.8	-
Chromium (III)	mg/kg	1	NONE	26	U/S	U/S	18	38	21	-
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	29	23	26	19	39	21	-
Copper (aqua regia extractable)	mg/kg	1	MCERTS	110	200	140	41	85	41	-
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2100	6100	12000	140	1400	53	-
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	0.5	< 0.3	< 0.3	< 0.3	0.9	< 0.3	-
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	20	21	26	13	30	12	-
Silver (aqua regia extractable)	mg/kg	1	NONE	21	100	68	1.2	9.3	< 1.0	-
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-
Tin (aqua regia extractable)	mg/kg	1	MCERTS	51	38	64	5.2	22	9.8	-
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	760	1600	2200	120	440	150	-
Monoaromatics & Oxygenates										
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355328	2355329	2355330	2355331	2355332	2378216	2378217
Sample Reference				WS103	WS103	WS104	WS105	WS106	BH101c	BH101c
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	1.60	0.60	0.40	0.50	1.20	2.50
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	01/08/2022	02/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	-
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	-
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	-
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	-
Petroleum Hydrocarbons										
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	-
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	11	-	-
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	9.1	< 2.0	< 2.0	24	-	-
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	36	< 8.0	< 8.0	11	-	-
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	140	66	45	< 8.0	-	-
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10	180	73	47	47	-	-
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	-	-
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	-	-
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	16	13	12	< 2.0	-	-
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	41	88	29	28	14	-	-
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	110	230	98	170	33	-	-
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	160	340	140	210	47	-	-
VOCs										
Chloromethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
Chloroethane	µg/kg	1	NONE	-	-	-	-	< 1.0		
Bromomethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
Vinyl Chloride	µg/kg	1	NONE	-	-	-	-	< 1.0		
Trichlorofluoromethane	µg/kg	1	NONE	-	-	-	-	< 1.0		
1,1-Dichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0		
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,1-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355328	2355329	2355330	2355331	2355332	2378216	2378217
Sample Reference				WS103	WS103	WS104	WS105	WS106	BH101c	BH101c
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	1.60	0.60	0.40	0.50	1.20	2.50
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	01/08/2022	02/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Trichloromethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,1,1-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,2-Dichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,1-Dichloropropene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Trans-1,2-dichloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0		
Benzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Tetrachloromethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,2-Dichloropropane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Trichloroethene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Dibromomethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Bromodichloromethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
Toluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,1,2-Trichloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,3-Dichloropropane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
Dibromochloromethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
Tetrachloroethene	µg/kg	1	NONE	-	-	-	-	< 1.0		
1,2-Dibromoethane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
Chlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
p & m-Xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Styrene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Tribromomethane	µg/kg	1	NONE	-	-	-	-	< 1.0		
o-Xylene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Isopropylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
Bromobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
n-Propylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
2-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
4-Chlorotoluene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		
tert-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0		
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0		

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355328	2355329	2355330	2355331	2355332	2378216	2378217	
Sample Reference				WS103	WS103	WS104	WS105	WS106	BH101c	BH101c	
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	
Depth (m)				1.20	1.60	0.60	0.40	0.50	1.20	2.50	
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	01/08/2022	02/08/2022	
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	
sec-Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0			
Butylbenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	-	-	-	-	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	-	-	-	-	< 1.0			
Hexachlorobutadiene	µg/kg	1	MCERTS	-	-	-	-	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	-	-	-	-	< 1.0			
SVOCs											
Aniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1			
Phenol	mg/kg	0.2	ISO 17025	-	-	-	-	< 0.2			
2-Chlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1			
2-Methylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3			
Hexachloroethane	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05			
Nitrobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3			
4-Methylphenol	mg/kg	0.2	NONE	-	-	-	-	< 0.2			
Isophorone	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2			
2-Nitrophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3			
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3			
4-Chloroaniline	mg/kg	0.1	NONE	-	-	-	-	< 0.1			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	-	-	-	-	< 0.1			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2			

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355328	2355329	2355330	2355331	2355332	2378216	2378217
Sample Reference				WS103	WS103	WS104	WS105	WS106	BH101c	BH101c
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	1.60	0.60	0.40	0.50	1.20	2.50
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	01/08/2022	02/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2-Methylnaphthalene	mg/kg	0.1	NONE	-	-	-	-	< 0.1		
2-Chloronaphthalene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1		
Dimethylphthalate	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1		
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	-	-	-	-	< 0.1		
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05		
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2		
Dibenzofuran	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2		
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	-	-	-	-	< 0.3		
Diethyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2		
4-Nitroaniline	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2		
Fluorene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05		
Azobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3		
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2		
Hexachlorobenzene	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3		
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	-	1.7		
Anthracene	mg/kg	0.05	MCERTS	-	-	-	-	0.54		
Carbazole	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3		
Dibutyl phthalate	mg/kg	0.2	MCERTS	-	-	-	-	< 0.2		
Anthraquinone	mg/kg	0.3	MCERTS	-	-	-	-	< 0.3		
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	3.8		
Pyrene	mg/kg	0.05	MCERTS	-	-	-	-	3.5		
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	-	-	-	-	< 0.3		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	2.1		
Chrysene	mg/kg	0.05	MCERTS	-	-	-	-	1.7		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	1.8		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	-	1.2		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	1.9		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	-	0.9		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	-	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	-	1.1		
PCBs by GC-MS										
PCB Congener 28	mg/kg	0.001	MCERTS							
PCB Congener 52	mg/kg	0.001	MCERTS							
PCB Congener 101	mg/kg	0.001	MCERTS							

Project / Site name: BRM Area 4 GI

Lab Sample Number				2355328	2355329	2355330	2355331	2355332	2378216	2378217
Sample Reference				WS103	WS103	WS104	WS105	WS106	BH101c	BH101c
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				1.20	1.60	0.60	0.40	0.50	1.20	2.50
Date Sampled				14/07/2022	14/07/2022	12/07/2022	15/07/2022	15/07/2022	01/08/2022	02/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
PCB Congener 118	mg/kg	0.001	MCERTS							
PCB Congener 138	mg/kg	0.001	MCERTS							
PCB Congener 153	mg/kg	0.001	MCERTS							
PCB Congener 180	mg/kg	0.001	MCERTS							
Total PCBs by GC-MS										
Total PCBs	mg/kg	0.007	MCERTS							

Project / Site name: BRM Area 4 GI

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Lab Sample Number				2378218	2378219	2378220	2378221	2378222	2378223	2378224
Sample Reference				BH101c	BH101c	BH105	BH105	BH105	BH105	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				6.00	12.50	0.10	0.25	0.40	1.30	1.60
Date Sampled				02/08/2022	03/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	%	0.1	NONE	< 0.1	< 0.1	66	75	< 0.1	62	37
Moisture Content	%	0.01	NONE	58	58	0.14	3.5	24	8.7	5.9
Total mass of sample received	kg	0.001	NONE	1.2	1.2	1.2	1.2	1.2	1	1.1
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025							
Asbestos in Soil	Type	N/A	ISO 17025	-	-	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025							
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025							
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025							
Asbestos Analyst ID	N/A	N/A	N/A	N/A	N/A	JMA	JMA	JMA	JMA	JMA
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS							
Complex Cyanide	mg/kg	1	MCERTS							
pH - Automated	pH Units	N/A	MCERTS	8	7.6	11.3	11.7	8.2	8.5	8.6
Total Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Free Cyanide	mg/kg	1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	-	< 1.0	< 1.0	-	-	-
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS							
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS							
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS	-	-	-	-	-	-	-
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-	-	-	-	-	-	-
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-	8.9	-	-	-	-	-
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	6	-	-	-	-	1.2	0.7
Total Phenols										
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-	-	-
Speciated PAHs										
Naphthalene	mg/kg	0.05	MCERTS	-	-	< 0.05	5.5	1.7	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	< 0.05	0.46	0.58	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	< 0.05	5.3	0.9	< 0.05	< 0.05

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Lab Sample Number				2378218	2378219	2378220	2378221	2378222	2378223	2378224
Sample Reference				BH101c	BH101c	BH105	BH105	BH105	BH105	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				6.00	12.50	0.10	0.25	0.40	1.30	1.60
Date Sampled				02/08/2022	03/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Fluorene	mg/kg	0.05	MCERTS	-	-	< 0.05	5.4	0.81	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	0.28	36	5.2	0.23	0.49
Anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	8.7	1.3	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	0.41	26	6.5	0.51	0.78
Pyrene	mg/kg	0.05	MCERTS	-	-	0.35	20	6	0.4	0.69
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	10	4.4	0.41	0.55
Chrysene	mg/kg	0.05	MCERTS	-	-	< 0.05	8.2	3.9	0.26	0.42
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	9.6	4.7	0.24	0.57
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	< 0.05	3.1	4.1	0.27	0.33
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	8.6	5.3	0.28	0.51
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	< 0.05	4.4	3.1	< 0.05	0.3
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	< 0.05	1.4	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	< 0.05	5.3	3.6	< 0.05	0.35
Total PAH										
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	1.04	158	52.1	2.6	4.99
Heavy Metals / Metalloids										
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	-	-	< 1.0	< 1.0	12	7.2	37
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	-	-	6.5	8.6	34	19	31
Boron (water soluble)	mg/kg	0.2	MCERTS	-	-	0.6	0.6	6.8	5.1	14
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	-	-	< 0.2	< 0.2	5.4	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	-	-	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	-	-	16	19	97	25	15
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	16	19	98	26	15
Copper (aqua regia extractable)	mg/kg	1	MCERTS	-	-	14	25	160	39	31
Lead (aqua regia extractable)	mg/kg	1	MCERTS	-	-	27	35	300	140	410
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	-	-	< 0.3	< 0.3	2.9	1	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	-	-	10	12	40	17	9.4
Silver (aqua regia extractable)	mg/kg	1	NONE	-	-	< 1.0	< 1.0	7	1.2	2.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	-	-	12	6.3	1	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	-	-	< 1.0	3.7	29	7	6.9
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	-	-	55	62	450	130	150
Monoaromatics & Oxygenates										
Benzene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0	< 1.0

Project / Site name: BRM Area 4 GI

Lab Sample Number				2378218	2378219	2378220	2378221	2378222	2378223	2378224
Sample Reference				BH101c	BH101c	BH105	BH105	BH105	BH105	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				6.00	12.50	0.10	0.25	0.40	1.30	1.60
Date Sampled				02/08/2022	03/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Toluene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	-	-	< 1.0	< 1.0
Petroleum Hydrocarbons										
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	-	-	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	-	-	-	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	-	-	-	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-	-	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	-	-	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	-	-	-	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	-	-	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	-	-	-	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	-	-	-	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-	-	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-	-	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	-	-	< 10	< 10
VOCs										
Chloromethane	µg/kg	1	ISO 17025							
Chloroethane	µg/kg	1	NONE							
Bromomethane	µg/kg	1	ISO 17025							
Vinyl Chloride	µg/kg	1	NONE							
Trichlorofluoromethane	µg/kg	1	NONE							
1,1-Dichloroethene	µg/kg	1	NONE							
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025							
Cis-1,2-dichloroethene	µg/kg	1	MCERTS							
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS							
1,1-Dichloroethane	µg/kg	1	MCERTS							

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Lab Sample Number				2378218	2378219	2378220	2378221	2378222	2378223	2378224
Sample Reference				BH101c	BH101c	BH105	BH105	BH105	BH105	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				6.00	12.50	0.10	0.25	0.40	1.30	1.60
Date Sampled				02/08/2022	03/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2,2-Dichloropropane	µg/kg	1	MCERTS							
Trichloromethane	µg/kg	1	MCERTS							
1,1,1-Trichloroethane	µg/kg	1	MCERTS							
1,2-Dichloroethane	µg/kg	1	MCERTS							
1,1-Dichloropropene	µg/kg	1	MCERTS							
Trans-1,2-dichloroethene	µg/kg	1	NONE							
Benzene	µg/kg	1	MCERTS							
Tetrachloromethane	µg/kg	1	MCERTS							
1,2-Dichloropropane	µg/kg	1	MCERTS							
Trichloroethene	µg/kg	1	MCERTS							
Dibromomethane	µg/kg	1	MCERTS							
Bromodichloromethane	µg/kg	1	MCERTS							
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025							
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025							
Toluene	µg/kg	1	MCERTS							
1,1,2-Trichloroethane	µg/kg	1	MCERTS							
1,3-Dichloropropane	µg/kg	1	ISO 17025							
Dibromochloromethane	µg/kg	1	ISO 17025							
Tetrachloroethene	µg/kg	1	NONE							
1,2-Dibromoethane	µg/kg	1	ISO 17025							
Chlorobenzene	µg/kg	1	MCERTS							
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS							
Ethylbenzene	µg/kg	1	MCERTS							
p & m-Xylene	µg/kg	1	MCERTS							
Styrene	µg/kg	1	MCERTS							
Tribromomethane	µg/kg	1	NONE							
o-Xylene	µg/kg	1	MCERTS							
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS							
Isopropylbenzene	µg/kg	1	MCERTS							
Bromobenzene	µg/kg	1	MCERTS							
n-Propylbenzene	µg/kg	1	ISO 17025							
2-Chlorotoluene	µg/kg	1	MCERTS							
4-Chlorotoluene	µg/kg	1	MCERTS							
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025							
tert-Butylbenzene	µg/kg	1	MCERTS							
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025							

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Lab Sample Number				2378218	2378219	2378220	2378221	2378222	2378223	2378224
Sample Reference				BH101c	BH101c	BH105	BH105	BH105	BH105	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				6.00	12.50	0.10	0.25	0.40	1.30	1.60
Date Sampled				02/08/2022	03/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
sec-Butylbenzene	µg/kg	1	MCERTS							
1,3-Dichlorobenzene	µg/kg	1	ISO 17025							
p-Isopropyltoluene	µg/kg	1	ISO 17025							
1,2-Dichlorobenzene	µg/kg	1	MCERTS							
1,4-Dichlorobenzene	µg/kg	1	MCERTS							
Butylbenzene	µg/kg	1	MCERTS							
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025							
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS							
Hexachlorobutadiene	µg/kg	1	MCERTS							
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025							
SVOCs										
Aniline	mg/kg	0.1	NONE							
Phenol	mg/kg	0.2	ISO 17025							
2-Chlorophenol	mg/kg	0.1	MCERTS							
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS							
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS							
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS							
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS							
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS							
2-Methylphenol	mg/kg	0.3	MCERTS							
Hexachloroethane	mg/kg	0.05	MCERTS							
Nitrobenzene	mg/kg	0.3	MCERTS							
4-Methylphenol	mg/kg	0.2	NONE							
Isophorone	mg/kg	0.2	MCERTS							
2-Nitrophenol	mg/kg	0.3	MCERTS							
2,4-Dimethylphenol	mg/kg	0.3	MCERTS							
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS							
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS							
Naphthalene	mg/kg	0.05	MCERTS							
2,4-Dichlorophenol	mg/kg	0.3	MCERTS							
4-Chloroaniline	mg/kg	0.1	NONE							
Hexachlorobutadiene	mg/kg	0.1	MCERTS							
4-Chloro-3-methylphenol	mg/kg	0.1	NONE							
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS							
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS							

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Lab Sample Number				2378218	2378219	2378220	2378221	2378222	2378223	2378224
Sample Reference				BH101c	BH101c	BH105	BH105	BH105	BH105	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				6.00	12.50	0.10	0.25	0.40	1.30	1.60
Date Sampled				02/08/2022	03/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2-Methylnaphthalene	mg/kg	0.1	NONE							
2-Chloronaphthalene	mg/kg	0.1	MCERTS							
Dimethylphthalate	mg/kg	0.1	MCERTS							
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS							
Acenaphthylene	mg/kg	0.05	MCERTS							
Acenaphthene	mg/kg	0.05	MCERTS							
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS							
Dibenzofuran	mg/kg	0.2	MCERTS							
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025							
Diethyl phthalate	mg/kg	0.2	MCERTS							
4-Nitroaniline	mg/kg	0.2	MCERTS							
Fluorene	mg/kg	0.05	MCERTS							
Azobenzene	mg/kg	0.3	MCERTS							
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS							
Hexachlorobenzene	mg/kg	0.3	MCERTS							
Phenanthrene	mg/kg	0.05	MCERTS							
Anthracene	mg/kg	0.05	MCERTS							
Carbazole	mg/kg	0.3	MCERTS							
Dibutyl phthalate	mg/kg	0.2	MCERTS							
Anthraquinone	mg/kg	0.3	MCERTS							
Fluoranthene	mg/kg	0.05	MCERTS							
Pyrene	mg/kg	0.05	MCERTS							
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025							
Benzo(a)anthracene	mg/kg	0.05	MCERTS							
Chrysene	mg/kg	0.05	MCERTS							
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS							
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS							
Benzo(a)pyrene	mg/kg	0.05	MCERTS							
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS							
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS							
Benzo(ghi)perylene	mg/kg	0.05	MCERTS							
PCBs by GC-MS										
PCB Congener 28	mg/kg	0.001	MCERTS							
PCB Congener 52	mg/kg	0.001	MCERTS							
PCB Congener 101	mg/kg	0.001	MCERTS							

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Lab Sample Number				2378218	2378219	2378220	2378221	2378222	2378223	2378224
Sample Reference				BH101c	BH101c	BH105	BH105	BH105	BH105	BH105
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				6.00	12.50	0.10	0.25	0.40	1.30	1.60
Date Sampled				02/08/2022	03/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022	04/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
PCB Congener 118	mg/kg	0.001	MCERTS							
PCB Congener 138	mg/kg	0.001	MCERTS							
PCB Congener 153	mg/kg	0.001	MCERTS							
PCB Congener 180	mg/kg	0.001	MCERTS							
Total PCBs by GC-MS										
Total PCBs	mg/kg	0.007	MCERTS							

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Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status						
Lab Sample Number				2378225	2388143	2388144	2388145	2388146	2388147	2388148
Sample Reference				Surface sample	WS102	WS102	WS104	WS104	WS104	WS105
Sample Number				from south west of site	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	1.70	2.80	1.60	1.90	2.80	1.50
Date Sampled				04/08/2022	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	42	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	< 0.01	19	48	9.8	21	39	4
Total mass of sample received	kg	0.001	NONE	1.2	0.8	0.8	0.8	0.8	0.8	0.8
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025		-	-	-	-	-	-
Asbestos in Soil	Type	N/A	ISO 17025	-	-	-	Not-detected	Not-detected	-	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025		N/A	N/A	LFT	LFT	N/A	LFT
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025							
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025							
Asbestos Analyst ID	N/A	N/A	N/A	N/A						
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS							
Complex Cyanide	mg/kg	1	MCERTS		-	-	< 1.0	-	-	< 1.0
pH - Automated	pH Units	N/A	MCERTS	-	-	-	8.1	9.1	-	-
Total Cyanide	mg/kg	1	MCERTS	-	-	-	< 1.0	-	-	< 1.0
Free Cyanide	mg/kg	1	MCERTS	-	-	-	< 1.0	-	-	< 1.0
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-						
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS		-	-	0.14	0.013	0.67	0.027
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS		-	-	51	150	2000	6.9
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS		-	-	< 0.5	< 0.5	130	< 0.5
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS	-						
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS	-						
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS	-						
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	-	0.4	6	1.4	0.6	3.6	0.1
Total Phenols										
Total Phenols (monohydric)	mg/kg	1	MCERTS	-	-	-	-	-	-	< 1.0
Speciated PAHs										
Naphthalene	mg/kg	0.05	MCERTS	-	-	-	0.4	0.41	-	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	-	-	-	0.73	0.24	-	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	-	-	-	0.35	0.3	-	< 0.05

Project / Site name: BRM Area 4 GI

Lab Sample Number				2378225	2388143	2388144	2388145	2388146	2388147	2388148
Sample Reference				Surface sample	WS102	WS102	WS104	WS104	WS104	WS105
Sample Number				from south west of site	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	1.70	2.80	1.60	1.90	2.80	1.50
Date Sampled				04/08/2022	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Fluorene	mg/kg	0.05	MCERTS	-	-	-	0.31	0.2	-	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	-	-	-	3.5	1.6	-	< 0.05
Anthracene	mg/kg	0.05	MCERTS	-	-	-	1.1	0.7	-	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	-	-	-	8.2	3.2	-	< 0.05
Pyrene	mg/kg	0.05	MCERTS	-	-	-	7.8	2.7	-	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	-	-	-	5.6	2	-	< 0.05
Chrysene	mg/kg	0.05	MCERTS	-	-	-	3.6	2.1	-	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	6.5	2.5	-	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	-	-	-	1.7	0.66	-	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	-	-	-	5	2.1	-	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	-	-	-	3.4	1.1	-	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	-	-	-	1.1	0.4	-	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	-	-	-	4.3	1.3	-	< 0.05
Total PAH										
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	-	-	-	53.5	21.5	-	< 0.80
Heavy Metals / Metalloids										
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	< 1.0	1	9.5	140	4.8	< 1.0	2.4
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.5	9.3	57	84	16	40	8.7
Boron (water soluble)	mg/kg	0.2	MCERTS	0.8	0.4	7.2	6.6	11	7.2	1.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	8.5	< 0.2	1	5.7	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8	< 1.8
Chromium (III)	mg/kg	1	NONE	11	11	140	30	19	71	6.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	11	11	140	30	19	71	6.4
Copper (aqua regia extractable)	mg/kg	1	MCERTS	8	8.6	240	76	29	100	9.7
Lead (aqua regia extractable)	mg/kg	1	MCERTS	2.9	17	390	3100	61	180	14
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	7.2	0.6	0.5	2.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.2	6.4	50	22	13	33	4.4
Silver (aqua regia extractable)	mg/kg	1	NONE	< 1.0	< 1.0	14	30	< 1.0	4	< 1.0
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	17	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	2.4	1.7	35	38	5.4	16	1.8
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	8	38	750	540	120	480	27
Monoaromatics & Oxygenates										
Benzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0	-	< 1.0

Project / Site name: BRM Area 4 GI										
Lab Sample Number				2378225	2388143	2388144	2388145	2388146	2388147	2388148
Sample Reference				Surface sample	WS102	WS102	WS104	WS104	WS104	WS105
Sample Number				from south west of site	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	1.70	2.80	1.60	1.90	2.80	1.50
Date Sampled				04/08/2022	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Toluene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0	-	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0	-	< 1.0
p & m-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0	-	< 1.0
o-xylene	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0	-	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0	-	< 1.0
Petroleum Hydrocarbons										
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0	-	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	-	-	-	< 2.0	< 2.0	-	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	< 8.0	< 8.0	-	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	-	-	-	< 8.0	< 8.0	-	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	-	-	-	< 10	< 10	-	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	-	-	-	< 0.001	< 0.001	-	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	-	-	-	< 1.0	< 1.0	-	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	-	-	-	< 2.0	< 2.0	-	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	11	18	-	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	45	34	-	< 10
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	-	-	-	56	52	-	< 10
VOCs										
Chloromethane	µg/kg	1	ISO 17025		-	-	-	-	-	-
Chloroethane	µg/kg	1	NONE		-	-	-	-	-	-
Bromomethane	µg/kg	1	ISO 17025		-	-	-	-	-	-
Vinyl Chloride	µg/kg	1	NONE		-	-	-	-	-	-
Trichlorofluoromethane	µg/kg	1	NONE		-	-	-	-	-	-
1,1-Dichloroethene	µg/kg	1	NONE		-	-	-	-	-	-
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025		-	-	-	-	-	-
Cis-1,2-dichloroethene	µg/kg	1	MCERTS		-	-	-	-	-	-
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS		-	-	-	-	-	-
1,1-Dichloroethane	µg/kg	1	MCERTS		-	-	-	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2378225	2388143	2388144	2388145	2388146	2388147	2388148
Sample Reference				Surface sample	WS102	WS102	WS104	WS104	WS104	WS105
Sample Number				from south west of site	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	1.70	2.80	1.60	1.90	2.80	1.50
Date Sampled				04/08/2022	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2,2-Dichloropropane	µg/kg	1	MCERTS		-	-	-	-	-	-
Trichloromethane	µg/kg	1	MCERTS		-	-	-	-	-	-
1,1,1-Trichloroethane	µg/kg	1	MCERTS		-	-	-	-	-	-
1,2-Dichloroethane	µg/kg	1	MCERTS		-	-	-	-	-	-
1,1-Dichloropropene	µg/kg	1	MCERTS		-	-	-	-	-	-
Trans-1,2-dichloroethene	µg/kg	1	NONE		-	-	-	-	-	-
Benzene	µg/kg	1	MCERTS		-	-	-	-	-	-
Tetrachloromethane	µg/kg	1	MCERTS		-	-	-	-	-	-
1,2-Dichloropropane	µg/kg	1	MCERTS		-	-	-	-	-	-
Trichloroethene	µg/kg	1	MCERTS		-	-	-	-	-	-
Dibromomethane	µg/kg	1	MCERTS		-	-	-	-	-	-
Bromodichloromethane	µg/kg	1	MCERTS		-	-	-	-	-	-
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025		-	-	-	-	-	-
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025		-	-	-	-	-	-
Toluene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,1,2-Trichloroethane	µg/kg	1	MCERTS		-	-	-	-	-	-
1,3-Dichloropropane	µg/kg	1	ISO 17025		-	-	-	-	-	-
Dibromochloromethane	µg/kg	1	ISO 17025		-	-	-	-	-	-
Tetrachloroethene	µg/kg	1	NONE		-	-	-	-	-	-
1,2-Dibromoethane	µg/kg	1	ISO 17025		-	-	-	-	-	-
Chlorobenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS		-	-	-	-	-	-
Ethylbenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
p & m-Xylene	µg/kg	1	MCERTS		-	-	-	-	-	-
Styrene	µg/kg	1	MCERTS		-	-	-	-	-	-
Tribromomethane	µg/kg	1	NONE		-	-	-	-	-	-
o-Xylene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS		-	-	-	-	-	-
Isopropylbenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
Bromobenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
n-Propylbenzene	µg/kg	1	ISO 17025		-	-	-	-	-	-
2-Chlorotoluene	µg/kg	1	MCERTS		-	-	-	-	-	-
4-Chlorotoluene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025		-	-	-	-	-	-
tert-Butylbenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025		-	-	-	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2378225	2388143	2388144	2388145	2388146	2388147	2388148
Sample Reference				Surface sample	WS102	WS102	WS104	WS104	WS104	WS105
Sample Number				from south west of site	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	1.70	2.80	1.60	1.90	2.80	1.50
Date Sampled				04/08/2022	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
sec-Butylbenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,3-Dichlorobenzene	µg/kg	1	ISO 17025		-	-	-	-	-	-
p-Isopropyltoluene	µg/kg	1	ISO 17025		-	-	-	-	-	-
1,2-Dichlorobenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,4-Dichlorobenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
Butylbenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025		-	-	-	-	-	-
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS		-	-	-	-	-	-
Hexachlorobutadiene	µg/kg	1	MCERTS		-	-	-	-	-	-
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025		-	-	-	-	-	-
SVOCs										
Aniline	mg/kg	0.1	NONE		-	-	-	-	-	-
Phenol	mg/kg	0.2	ISO 17025		-	-	-	-	-	-
2-Chlorophenol	mg/kg	0.1	MCERTS		-	-	-	-	-	-
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS		-	-	-	-	-	-
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS		-	-	-	-	-	-
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS		-	-	-	-	-	-
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS		-	-	-	-	-	-
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS		-	-	-	-	-	-
2-Methylphenol	mg/kg	0.3	MCERTS		-	-	-	-	-	-
Hexachloroethane	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Nitrobenzene	mg/kg	0.3	MCERTS		-	-	-	-	-	-
4-Methylphenol	mg/kg	0.2	NONE		-	-	-	-	-	-
Isophorone	mg/kg	0.2	MCERTS		-	-	-	-	-	-
2-Nitrophenol	mg/kg	0.3	MCERTS		-	-	-	-	-	-
2,4-Dimethylphenol	mg/kg	0.3	MCERTS		-	-	-	-	-	-
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS		-	-	-	-	-	-
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS		-	-	-	-	-	-
Naphthalene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
2,4-Dichlorophenol	mg/kg	0.3	MCERTS		-	-	-	-	-	-
4-Chloroaniline	mg/kg	0.1	NONE		-	-	-	-	-	-
Hexachlorobutadiene	mg/kg	0.1	MCERTS		-	-	-	-	-	-
4-Chloro-3-methylphenol	mg/kg	0.1	NONE		-	-	-	-	-	-
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS		-	-	-	-	-	-
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS		-	-	-	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2378225	2388143	2388144	2388145	2388146	2388147	2388148
Sample Reference				Surface sample	WS102	WS102	WS104	WS104	WS104	WS105
Sample Number				from south west of site	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	1.70	2.80	1.60	1.90	2.80	1.50
Date Sampled				04/08/2022	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2-Methylnaphthalene	mg/kg	0.1	NONE		-	-	-	-	-	-
2-Chloronaphthalene	mg/kg	0.1	MCERTS		-	-	-	-	-	-
Dimethylphthalate	mg/kg	0.1	MCERTS		-	-	-	-	-	-
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS		-	-	-	-	-	-
Acenaphthylene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Acenaphthene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS		-	-	-	-	-	-
Dibenzofuran	mg/kg	0.2	MCERTS		-	-	-	-	-	-
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025		-	-	-	-	-	-
Diethyl phthalate	mg/kg	0.2	MCERTS		-	-	-	-	-	-
4-Nitroaniline	mg/kg	0.2	MCERTS		-	-	-	-	-	-
Fluorene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Azobenzene	mg/kg	0.3	MCERTS		-	-	-	-	-	-
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS		-	-	-	-	-	-
Hexachlorobenzene	mg/kg	0.3	MCERTS		-	-	-	-	-	-
Phenanthrene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Anthracene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Carbazole	mg/kg	0.3	MCERTS		-	-	-	-	-	-
Dibutyl phthalate	mg/kg	0.2	MCERTS		-	-	-	-	-	-
Anthraquinone	mg/kg	0.3	MCERTS		-	-	-	-	-	-
Fluoranthene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Pyrene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025		-	-	-	-	-	-
Benzo(a)anthracene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Chrysene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Benzo(a)pyrene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
Benzo(ghi)perylene	mg/kg	0.05	MCERTS		-	-	-	-	-	-
PCBs by GC-MS										
PCB Congener 28	mg/kg	0.001	MCERTS		-	-	-	-	-	-
PCB Congener 52	mg/kg	0.001	MCERTS		-	-	-	-	-	-
PCB Congener 101	mg/kg	0.001	MCERTS		-	-	-	-	-	-

Project / Site name: BRM Area 4 GI

Lab Sample Number				2378225	2388143	2388144	2388145	2388146	2388147	2388148
Sample Reference				Surface sample	WS102	WS102	WS104	WS104	WS104	WS105
Sample Number				from south west of site	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				None Supplied	1.70	2.80	1.60	1.90	2.80	1.50
Date Sampled				04/08/2022	Deviating	Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
PCB Congener 118	mg/kg	0.001	MCERTS		-	-	-	-	-	-
PCB Congener 138	mg/kg	0.001	MCERTS		-	-	-	-	-	-
PCB Congener 153	mg/kg	0.001	MCERTS		-	-	-	-	-	-
PCB Congener 180	mg/kg	0.001	MCERTS		-	-	-	-	-	-
Total PCBs by GC-MS										
Total PCBs	mg/kg	0.007	MCERTS		-	-	-	-	-	-

Project / Site name: BRM Area 4 GI

Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status							
Lab Sample Number				2388149	2388150	2388151	2395602	2395678	2395679	2395687
Sample Reference				WS106	BH104	BH104	WS106	BH104	BH104	BH106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	3.00	1.50	0.50	1.00	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	09/08/2022	09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Stone Content	%	0.1	NONE	34	< 0.1	55	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	3.8	40	6.9	7.5	2.7	6	11
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	1.3	1.3	1.3	0.9
Asbestos in Soil Screen / Identification Name	Type	N/A	ISO 17025	Amosite- Loose Fibres	-	-		Anthophyllite- Loose Fibres	Chrysotile- Loose Fibres	
Asbestos in Soil	Type	N/A	ISO 17025	Detected	Not-detected	-		Detected	Detected	Not-detected
Asbestos Quantification (Stage 2)	%	0.001	ISO 17025	LFT	LFT	N/A		MWI	MWI	MWI
Asbestos Quantification (Stage 3)	%	0.001	ISO 17025							
Asbestos Quantification Total (stages 2+3)	%	0.001	ISO 17025							
Asbestos Analyst ID	N/A	N/A	N/A							
Water Soluble Sulphate as SO4 16hr extraction (2:1)	mg/kg	2.5	MCERTS				72			
Complex Cyanide	mg/kg	1	MCERTS	1.2	5.5	-				
pH - Automated	pH Units	N/A	MCERTS	8.3	8.3	9.7		11.8	10.7	9.1
Total Cyanide	mg/kg	1	MCERTS	1.2	5.5	-				
Free Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	-				
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS							
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.18	1.1	-	0.036			
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	47	5000	-	22			
Ammoniacal Nitrogen as N	mg/kg	0.5	MCERTS	< 0.5	< 0.5	-	< 0.5			
Ammoniacal Nitrogen as NH3	mg/kg	0.5	MCERTS							
Ammoniacal Nitrogen as NH4	mg/kg	0.5	MCERTS							
Total Organic Carbon (TOC) – Manual	%	0.1	MCERTS							
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.9	4.5	1.2				
Total Phenols										
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	-	-				
Speciated PAHs										
Naphthalene	mg/kg	0.05	MCERTS	0.98	0.85	< 0.05		< 0.05	0.84	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	0.82	0.89	0.42		< 0.05	0.26	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	0.49	0.89	< 0.05		< 0.05	3.2	< 0.05

Project / Site name: BRM Area 4 GI

Lab Sample Number				2388149	2388150	2388151	2395602	2395678	2395679	2395687
Sample Reference				WS106	BH104	BH104	WS106	BH104	BH104	BH106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	3.00	1.50	0.50	1.00	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	09/08/2022	09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Fluorene	mg/kg	0.05	MCERTS	0.58	0.79	0.24		< 0.05	0.6	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	4.3	3.3	2.3		1.3	5.9	0.22
Anthracene	mg/kg	0.05	MCERTS	1.4	1.6	0.57		0.22	2.8	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	7.1	13	4.6		4.1	90	0.46
Pyrene	mg/kg	0.05	MCERTS	6.1	11	4.1		3.9	97	0.42
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.2	7.6	2.9		4.1	140	0.31
Chrysene	mg/kg	0.05	MCERTS	2.9	7.6	2		3.8	130	0.23
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	4.6	13	3.4		5.8	160	0.35
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1	5.2	0.75		2.2	94	0.21
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.2	12	2.4		4.8	160	0.27
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.7	5	1.4		2.5	79	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.53	1.3	0.39		0.58	21	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.1	5.7	1.6		3.1	88	< 0.05
Total PAH										
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	42	90	27		36.3	1080	2.47
Heavy Metals / Metalloids										
Antimony (aqua regia extractable)	mg/kg	1	ISO 17025	75	15	190		260	240	5
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	37	48	85		63	72	19
Boron (water soluble)	mg/kg	0.2	MCERTS	1.8	12	3		0.7	1.3	1.5
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	2	6.6	< 0.2		< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.8	MCERTS	< 1.8	< 1.8	< 1.8		U/S*	U/S*	< 1.8
Chromium (III)	mg/kg	1	NONE	39	100	29		U/S*	U/S*	51
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	39	100	30		18	21	51
Copper (aqua regia extractable)	mg/kg	1	MCERTS	95	160	150		69	94	110
Lead (aqua regia extractable)	mg/kg	1	MCERTS	1300	350	3300		2100	4400	82
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	1.3	2.8	< 0.3		< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	29	46	27		20	19	38
Silver (aqua regia extractable)	mg/kg	1	NONE	7	7.8	42		66	57	9.1
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
Tin (aqua regia extractable)	mg/kg	1	MCERTS	19	24	43		17	36	9.3
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	460	550	740		520	830	120
Monoaromatics & Oxygenates										
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0

Project / Site name: BRM Area 4 GI

Lab Sample Number				2388149	2388150	2388151	2395602	2395678	2395679	2395687
Sample Reference				WS106	BH104	BH104	WS106	BH104	BH104	BH106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	3.00	1.50	0.50	1.00	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	09/08/2022	09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons										
TPH-CWG - Aliphatic >EC5 - EC6 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10 $_{HS\_1D\_AL}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12 $_{EH\_CU\_1D\_AL}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16 $_{EH\_CU\_1D\_AL}$	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		5.1	9.6	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	11	< 8.0		15	20	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35 $_{EH\_CU\_1D\_AL}$	mg/kg	8	MCERTS	< 8.0	140	< 8.0		58	150	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AL}$	mg/kg	10	MCERTS	< 10	150	< 10		78	180	< 10
TPH-CWG - Aromatic >EC5 - EC7 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10 $_{HS\_1D\_AR}$	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12 $_{EH\_CU\_1D\_AR}$	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16 $_{EH\_CU\_1D\_AR}$	mg/kg	2	MCERTS	< 2.0	3.9	< 2.0		< 2.0	13	< 2.0
TPH-CWG - Aromatic >EC16 - EC21 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	16	31	22		15	220	< 10
TPH-CWG - Aromatic >EC21 - EC35 $_{EH\_CU\_1D\_AR}$	mg/kg	10	MCERTS	34	76	66		140	2700	18
TPH-CWG - Aromatic (EC5 - EC35) $_{EH\_CU+HS\_1D\_AR}$	mg/kg	10	MCERTS	50	110	88		160	2900	27
VOCs										
Chloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
Chloroethane	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0			
Bromomethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
Vinyl Chloride	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0			
Trichlorofluoromethane	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0			
1,1-Dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0			
1,1,2-Trichloro 1,2,2-Trifluoroethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
Cis-1,2-dichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,1-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			

Project / Site name: BRM Area 4 GI

Lab Sample Number				2388149	2388150	2388151	2395602	2395678	2395679	2395687
Sample Reference				WS106	BH104	BH104	WS106	BH104	BH104	BH106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	3.00	1.50	0.50	1.00	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	09/08/2022	09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Trichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,1,1-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,2-Dichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,1-Dichloropropene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Trans-1,2-dichloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0			
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Tetrachloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,2-Dichloropropane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Trichloroethene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Dibromomethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Bromodichloromethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Cis-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
Trans-1,3-dichloropropene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,1,2-Trichloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,3-Dichloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
Dibromochloromethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
Tetrachloroethene	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0			
1,2-Dibromoethane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
Chlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,1,1,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
p & m-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Styrene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Tribromomethane	µg/kg	1	NONE	< 1.0	< 1.0	-	< 1.0			
o-Xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,1,2,2-Tetrachloroethane	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Isopropylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Bromobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
n-Propylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
2-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
4-Chlorotoluene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,3,5-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
tert-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,2,4-Trimethylbenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			

Project / Site name: BRM Area 4 GI

Lab Sample Number				2388149	2388150	2388151	2395602	2395678	2395679	2395687
Sample Reference				WS106	BH104	BH104	WS106	BH104	BH104	BH106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	3.00	1.50	0.50	1.00	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	09/08/2022	09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
sec-Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,3-Dichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
p-Isopropyltoluene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
1,2-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,4-Dichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Butylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,2-Dibromo-3-chloropropane	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
1,2,4-Trichlorobenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
Hexachlorobutadiene	µg/kg	1	MCERTS	< 1.0	< 1.0	-	< 1.0			
1,2,3-Trichlorobenzene	µg/kg	1	ISO 17025	< 1.0	< 1.0	-	< 1.0			
SVOCs										
Aniline	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1			
Phenol	mg/kg	0.2	ISO 17025	< 0.2	< 0.2	-	< 0.2			
2-Chlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1			
Bis(2-chloroethyl)ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
1,3-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
1,2-Dichlorobenzene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1			
1,4-Dichlorobenzene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
Bis(2-chloroisopropyl)ether	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1			
2-Methylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
Hexachloroethane	mg/kg	0.05	MCERTS	< 0.05	< 0.05	-	< 0.05			
Nitrobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
4-Methylphenol	mg/kg	0.2	NONE	< 0.2	< 0.2	-	< 0.2			
Isophorone	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
2-Nitrophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
2,4-Dimethylphenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
Bis(2-chloroethoxy)methane	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
1,2,4-Trichlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
Naphthalene	mg/kg	0.05	MCERTS	0.98	0.85	-	< 0.05			
2,4-Dichlorophenol	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
4-Chloroaniline	mg/kg	0.1	NONE	0.6	< 0.1	-	< 0.1			
Hexachlorobutadiene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1			
4-Chloro-3-methylphenol	mg/kg	0.1	NONE	< 0.1	< 0.1	-	< 0.1			
2,4,6-Trichlorophenol	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1			
2,4,5-Trichlorophenol	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			

Project / Site name: BRM Area 4 GI

Lab Sample Number				2388149	2388150	2388151	2395602	2395678	2395679	2395687
Sample Reference				WS106	BH104	BH104	WS106	BH104	BH104	BH106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	3.00	1.50	0.50	1.00	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	09/08/2022	09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
2-Methylnaphthalene	mg/kg	0.1	NONE	0.5	0.5	-	< 0.1			
2-Chloronaphthalene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1			
Dimethylphthalate	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1			
2,6-Dinitrotoluene	mg/kg	0.1	MCERTS	< 0.1	< 0.1	-	< 0.1			
Acenaphthylene	mg/kg	0.05	MCERTS	0.82	0.89	-	< 0.05			
Acenaphthene	mg/kg	0.05	MCERTS	0.49	0.89	-	< 0.05			
2,4-Dinitrotoluene	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
Dibenzofuran	mg/kg	0.2	MCERTS	0.4	0.5	-	< 0.2			
4-Chlorophenyl phenyl ether	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	-	< 0.3			
Diethyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
4-Nitroaniline	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
Fluorene	mg/kg	0.05	MCERTS	0.58	0.79	-	< 0.05			
Azobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
Bromophenyl phenyl ether	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
Hexachlorobenzene	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
Phenanthrene	mg/kg	0.05	MCERTS	4.3	3.3	-	0.88			
Anthracene	mg/kg	0.05	MCERTS	1.4	1.6	-	0.2			
Carbazole	mg/kg	0.3	MCERTS	0.3	< 0.3	-	< 0.3			
Dibutyl phthalate	mg/kg	0.2	MCERTS	< 0.2	< 0.2	-	< 0.2			
Anthraquinone	mg/kg	0.3	MCERTS	< 0.3	< 0.3	-	< 0.3			
Fluoranthene	mg/kg	0.05	MCERTS	7.1	13	-	2.1			
Pyrene	mg/kg	0.05	MCERTS	6.1	11	-	2.1			
Butyl benzyl phthalate	mg/kg	0.3	ISO 17025	< 0.3	< 0.3	-	< 0.3			
Benzo(a)anthracene	mg/kg	0.05	MCERTS	4.2	7.6	-	1.4			
Chrysene	mg/kg	0.05	MCERTS	2.9	7.6	-	1			
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	4.6	13	-	1.4			
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	1	5.2	-	0.54			
Benzo(a)pyrene	mg/kg	0.05	MCERTS	3.2	12	-	1			
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	1.7	5	-	0.56			
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	0.53	1.3	-	< 0.05			
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	2.1	5.7	-	0.69			
PCBs by GC-MS										
PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	-	-	< 0.001			
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	-	-	< 0.001			
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	-	-	< 0.001			

Project / Site name: BRM Area 4 GI

Lab Sample Number				2388149	2388150	2388151	2395602	2395678	2395679	2395687
Sample Reference				WS106	BH104	BH104	WS106	BH104	BH104	BH106
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.50	1.50	3.00	1.50	0.50	1.00	1.00
Date Sampled				Deviating	Deviating	Deviating	Deviating	09/08/2022	09/08/2022	09/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	-	-	< 0.001			
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	-	-	< 0.001			
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	-	-	< 0.001			
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	-	-	< 0.001			
Total PCBs by GC-MS										
Total PCBs	mg/kg	0.007	MCERTS	< 0.007	-	-	< 0.007			

Certificate of Analysis - Asbestos Quantification

Methods:
Qualitative Analysis

The samples were analysed qualitatively for asbestos by polarising light and dispersion staining as described by the Health and Safety Executive in HSG 248.

Quantitative Analysis

"The analysis was carried out using our documented in-house method A006-PL based on HSE Contract Research Report No: 83/1996: Development and Validation of an analytical method to determine the amount of asbestos in soils and loose aggregates (Davies et al, 1996) and HSG 248. Our method includes initial examination of the entire representative sample, then fractionation and detailed analysis of each fraction, with quantification by hand picking and weighing.

The limit of detection (reporting limit) of this method is 0.001 %.

The method has been validated using samples of at least 100 g, results for samples smaller than this should be interpreted with caution.

Both Qualitative and Quantitative Analyses are UKAS accredited.

Sample Number	Sample ID	Sample Depth (m)	Sample Weight (g)	Asbestos Containing Material Types Detected (ACM)	PLM Results	Asbestos by Gravimetric (Stage 2) Method (%)	Asbestos by PCM (stage 3) Method (%)	Asbestos by hand picking/weighing (%)	Total % Asbestos in Sample
2355316	BH105	0.90	134	Loose Fibres	**Anthophyllite**	0.018	0.002	-	**0.020**
2355320	TP102	0.90	132	Loose Fibres	**Anthophyllite**	< 0.001	< 0.001	-	**0.001**
2355321	TP103	0.70	141	Loose Fibres	**Chrysotile & Amosite**	< 0.001	< 0.001	-	**< 0.001**
2355322	TP104	1.70	116	Loose Fibres	**Chrysotile**	< 0.001	< 0.001	-	**< 0.001**
2355327	WS103	0.50	140	Loose Fibres	**Chrysotile & Anthophyllite**	0.002	< 0.001	-	**0.003**
2355328	WS103	1.20	143	Loose Fibrous Debris & Loose Fibres	**Chrysotile & Amosite**	0.002	< 0.001	-	**0.003**
2355330	WS104	0.60	134	Bitumen & Loose Fibres	**Chrysotile & Anthophyllite**	0.001	< 0.001	-	**0.001**
2355332	WS106	0.50	134	Loose Fibres	**Chrysotile & Anthophyllite**	0.001	< 0.001	-	**0.001**
2388149	WS106	0.50	138	Loose Fibres	**Amosite**	-	-	< 0.001	**< 0.001**
2395678	BH104	0.50	149	Loose Fibres	**Anthophyllite**	-	-	< 0.001	**< 0.001**
2395679	BH104	1.00	134	Loose Fibres	**Chrysotile**	-	-	< 0.001	**< 0.001**
2403641	HP103	0.20	164	Loose Fibres	**Chrysotile**	-	-	< 0.001	**< 0.001**
2403642	HP104	0.10	148	Loose Fibres	**Anthophyllite**	-	-	< 0.001	**< 0.001**
2403643	HP105	0.20	146	Loose Fibres	**Anthophyllite**	-	-	< 0.001	**< 0.001**

Opinions and interpretations expressed herein are outside the scope of UKAS accreditation.

Project / Site name: BRM Area 4 GI												
Lab Sample Number				2395943	2395944	2395945	2395946	2395947	2395948	2395949	2402206	2402207
Sample Reference				BH101 (s)	BH101 (d)	BH103 (d)	BH102 (s)	BH102 (d)	BH105 (s)	BH105 (d)	BH101 s	BH101 d
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				7.00	22.00	18.00	7.50	20.00	4.50	18.00	9.00	19.00
Date Sampled				17/08/2022	17/08/2022	18/08/2022	18/08/2022	18/08/2022	18/08/2022	18/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**									
General Inorganics												
pH	pH Units	N/A	ISO 17025	7.4	7.1	7.2	6.8	7.1	7.3	7.2	6.9	7
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	30000	11000	10000	27000	9100	3100	5500	42000	16000
Salinity	ppt	2	NONE	19	6.3	5.8	16	5.1	< 2.0	3	30	11
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	10	20	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	197	616	671	23.3	364	39	291	167	679
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ammonium - Exchangeable as NH4	µg/l	15	ISO 17025	62000	7900	5400	30000	7400	27000	11000	62000	14000
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	26.8	3.48	2.04	19.7	4.53	25.2	5.54	28.7	7.3
Nitrate as N	mg/l	0.01	ISO 17025	0.25	0.1	0.03	0.21	0.13	0.18	0.08	0.69	0.09
Nitrate as NO3	mg/l	0.05	ISO 17025	1.12	0.46	0.15	0.91	0.56	0.81	0.36	3.04	0.41
Alkalinity as CaCO3	mg/l	3	ISO 17025	2700	620	430	2400	750	1400	710	3200	860
Calcium (dissolved)	mg/l	0.012	ISO 17025									
Magnesium (dissolved)	mg/l	0.005	ISO 17025									
Hardness - Total	mgCaCO3/l	1	ISO 17025									
Total Phenols												
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Speciated PAHs												
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PAH												

Project / Site name: BRM Area 4 GI												
Lab Sample Number				2395943	2395944	2395945	2395946	2395947	2395948	2395949	2402206	2402207
Sample Reference				BH101 (s)	BH101 (d)	BH103 (d)	BH102 (s)	BH102 (d)	BH105 (s)	BH105 (d)	BH101 s	BH101 d
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				7.00	22.00	18.00	7.50	20.00	4.50	18.00	9.00	19.00
Date Sampled				17/08/2022	17/08/2022	18/08/2022	18/08/2022	18/08/2022	18/08/2022	18/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**									
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16	< 0.16
Heavy Metals / Metalloids												
Boron (dissolved)	µg/l	10	ISO 17025	120	980	960	200	880	17000	2200	1700	1100
Calcium (dissolved)	mg/l	0.012	ISO 17025	430	200	160	440	170	270	130	630	230
Chromium (hexavalent)	µg/l	5	ISO 17025	U/S*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	U/S*	< 5.0
Chromium (III)	µg/l	5	NONE	U/S*	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	U/S*	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.18	0.1	0.034	0.37	0.14	0.13	0.08	0.25	0.041
Antimony (dissolved)	µg/l	0.4	ISO 17025	0.8	0.8	0.9	2.6	1	1.6	0.6	< 0.4	< 0.4
Arsenic (dissolved)	µg/l	0.15	ISO 17025	14.1	1.54	0.89	4.55	0.47	26.1	1.65	23.9	6.69
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	< 0.02	0.04	0.05	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Chromium (dissolved)	µg/l	0.2	ISO 17025	2	0.8	0.8	1.3	0.6	2.1	0.7	1.2	1.3
Copper (dissolved)	µg/l	0.5	ISO 17025	3.2	1.4	5.8	3.3	1.4	2.7	2.1	1.9	1
Lead (dissolved)	µg/l	0.2	ISO 17025	< 0.2	< 0.2	< 0.2	0.8	< 0.2	< 0.2	< 0.2	0.3	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	1100	990	800	2400	1300	610	350	1400	880
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	26	13	6.6	7.8	8.8	2.1	2.1	19	13
Selenium (dissolved)	µg/l	0.6	ISO 17025	54	1	< 0.6	< 0.6	< 0.6	11	< 0.6	60	26
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	0.22	0.23	< 0.20	< 0.20
Zinc (dissolved)	µg/l	0.5	ISO 17025	4.5	11	8.5	9.4	7.7	4.1	6	12	9.8
Monoaromatics & Oxygenates												
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons												
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Project / Site name: BRM Area 4 GI												
Lab Sample Number				2395943	2395944	2395945	2395946	2395947	2395948	2395949	2402206	2402207
Sample Reference				BH101 (s)	BH101 (d)	BH103 (d)	BH102 (s)	BH102 (d)	BH105 (s)	BH105 (d)	BH101 s	BH101 d
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				7.00	22.00	18.00	7.50	20.00	4.50	18.00	9.00	19.00
Date Sampled				17/08/2022	17/08/2022	18/08/2022	18/08/2022	18/08/2022	18/08/2022	18/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Water Analysis)	**Units**	**Limit of detection**	**Accreditation Status**									
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

*U/S due to high variances between chromium (hexavalent) and chromium (dissolved) caused by method differences.

Project / Site name: BRM Area 4 GI

Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status							
Lab Sample Number				2402208	2402209	2402210	2404784	2404785	2404786	2404787
Sample Reference				BH102 s	BH102 d	BH103 d	BH104 (S)	BH104 (D)	BH105 (S)	BH105 (D)
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				8.00	18.00	18.00	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
General Inorganics										
pH	pH Units	N/A	ISO 17025	6.9	7.1	7.2	7.1	7.4	7.6	6.8
Electrical Conductivity at 20 °C	µS/cm	10	ISO 17025	33000	10000	11000	27000	4800	3000	23000
Salinity	ppt	2	NONE	23	6.3	6.9	18	2.8	< 2.0	15
Total Cyanide	µg/l	10	ISO 17025	< 10	< 10	< 10	< 10	< 10	< 10	< 10
Sulphate as SO4	mg/l	0.045	ISO 17025	21	448	840	159	89.6	83.8	90.3
Sulphide	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Ammonium - Exchangeable as NH4	µg/l	15	ISO 17025	32000	6000	2700	120000	12000	23000	59000
Dissolved Organic Carbon (DOC)	mg/l	0.1	ISO 17025	21.1	3.91	1.58	48.7	11	27	16.4
Nitrate as N	mg/l	0.01	ISO 17025	0.16	0.11	0.07	0.74	2.29	0.29	0.4
Nitrate as NO3	mg/l	0.05	ISO 17025	0.71	0.51	0.3	3.28	10.2	1.26	1.77
Alkalinity as CaCO3	mg/l	3	ISO 17025	2500	640	420	3400	520	1100	2000
Calcium (dissolved)	mg/l	0.012	ISO 17025							
Magnesium (dissolved)	mg/l	0.005	ISO 17025							
Hardness - Total	mgCaCO3/l	1	ISO 17025							
Total Phenols										
Total Phenols (monohydric)	µg/l	10	ISO 17025	< 10	< 10	< 10	76	< 10	< 10	64
Speciated PAHs										
Naphthalene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	4.11	< 0.01
Acenaphthylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	3.1	< 0.01
Acenaphthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	1.42	< 0.01	3.69	< 0.01
Fluorene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.41	< 0.01	2.77	< 0.01
Phenanthrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	0.42	< 0.01	16.7	< 0.01
Anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	6.3	< 0.01
Fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	42.1	< 0.01
Pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	34.4	< 0.01
Benzo(a)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	22	< 0.01
Chrysene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	20.2	< 0.01
Benzo(b)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	27.6	< 0.01
Benzo(k)fluoranthene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	10.2	< 0.01
Benzo(a)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	25.5	< 0.01
Indeno(1,2,3-cd)pyrene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	12.7	< 0.01
Dibenz(a,h)anthracene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	3.31	< 0.01
Benzo(ghi)perylene	µg/l	0.01	ISO 17025	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	15.2	< 0.01
Total PAH										

Project / Site name: BRM Area 4 GI

Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						
Lab Sample Number				2402208	2402209	2402210	2404784	2404785	2404786	2404787
Sample Reference				BH102 s	BH102 d	BH103 d	BH104 (S)	BH104 (D)	BH105 (S)	BH105 (D)
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				8.00	18.00	18.00	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Total EPA-16 PAHs	µg/l	0.16	ISO 17025	< 0.16	< 0.16	< 0.16	2.25	< 0.16	250	< 0.16
Heavy Metals / Metalloids										
Boron (dissolved)	µg/l	10	ISO 17025	710	840	890	2200	330	16000	1000
Calcium (dissolved)	mg/l	0.012	ISO 17025	480	170	150	400	110	260	490
Chromium (hexavalent)	µg/l	5	ISO 17025	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Chromium (III)	µg/l	5	NONE	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Iron (dissolved)	mg/l	0.004	ISO 17025	0.25	0.081	0.016	0.034	0.015	0.099	0.18
Antimony (dissolved)	µg/l	0.4	ISO 17025	21	< 0.4	< 0.4	< 0.4	2.2	2.1	0.9
Arsenic (dissolved)	µg/l	0.15	ISO 17025	10.8	0.91	1.07	0.33	1.61	16	1.64
Cadmium (dissolved)	µg/l	0.02	ISO 17025	< 0.02	0.04	0.04	0.09	0.1	0.02	0.06
Chromium (dissolved)	µg/l	0.2	ISO 17025	2.2	0.9	0.9	3.5	0.5	1.6	1
Copper (dissolved)	µg/l	0.5	ISO 17025	7.3	2.9	1.7	0.5	5.3	2.4	6.5
Lead (dissolved)	µg/l	0.2	ISO 17025	4.8	< 0.2	< 0.2	0.7	< 0.2	0.3	< 0.2
Manganese (dissolved)	µg/l	0.05	ISO 17025	2700	890	630	52	500	540	1400
Mercury (dissolved)	µg/l	0.05	ISO 17025	< 0.05	< 0.05	< 0.05	< 0.5	< 0.05	< 0.05	< 0.05
Nickel (dissolved)	µg/l	0.5	ISO 17025	24	10	6.6	1.3	18	4.8	2.3
Selenium (dissolved)	µg/l	0.6	ISO 17025	66	14	12	7.1	24	5.2	34
Silver (dissolved)	µg/l	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tin (dissolved)	µg/l	0.2	ISO 17025	< 0.20	< 0.20	< 0.20	0.77	1.1	< 0.20	< 0.20
Zinc (dissolved)	µg/l	0.5	ISO 17025	19	7	8.3	1.9	22	2.2	7
Monoaromatics & Oxygenates										
Benzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons										
TPH-CWG - Aliphatic >C5 - C6 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C6 - C8 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C8 - C10 $_{HS\_1D\_AL}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >C10 - C12 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aliphatic >C12 - C16 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10

Project / Site name: BRM Area 4 GI

Analytical Parameter (Water Analysis)	Units	Limit of detection	Accreditation Status						
Lab Sample Number				2402208	2402209	2402210	2404784	2404785	2404786	2404787
Sample Reference				BH102 s	BH102 d	BH103 d	BH104 (S)	BH104 (D)	BH105 (S)	BH105 (D)
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				8.00	18.00	18.00	None Supplied	None Supplied	None Supplied	None Supplied
Date Sampled				23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022	23/08/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
TPH-CWG - Aliphatic >C16 - C21 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	40
TPH-CWG - Aliphatic >C21 - C35 $_{EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	160
TPH-CWG - Aliphatic (C5 - C35) $_{HS+EH\_1D\_AL\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	200
TPH-CWG - Aromatic >C5 - C7 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C7 - C8 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C8 - C10 $_{HS\_1D\_AR}$	µg/l	1	ISO 17025	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >C10 - C12 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	< 10	< 10
TPH-CWG - Aromatic >C12 - C16 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	10	< 10
TPH-CWG - Aromatic >C16 - C21 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	100	< 10
TPH-CWG - Aromatic >C21 - C35 $_{EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	140	< 10
TPH-CWG - Aromatic (C5 - C35) $_{HS+EH\_1D\_AR\_\#1\_\#2\_MS}$	µg/l	10	NONE	< 10	< 10	< 10	< 10	< 10	250	< 10

U/S = Unsuitable Sample I/S = Insufficient Sample

*U/S due to high variances between chromium (hexavalent) and chromium (dissolved) caused by method differences.

wood.