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WALSALL COUNCIL

MIDDLEMORE LANE WTS AND HWRC

SITE CONDITION REPORT

JUNE 2024

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MIDDLEMORE LANE WTS AND HWRC

SITE CONDITION REPORT

JUNE 2024

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1 INTRODUCTION

- 1.1.1 Walsall Council proposes to develop a combined Waste Transfer Station (WTS) and Household Waste Recycling Centre (HWRC), including commercial waste recycling centre (referred to as 'small traders' scheme') at Middlemore Lane, Aldridge, Walsall.
- 1.1.2 The site is located north of Middlemore Lane on the former McKechnie Brass Limited factory. It is bounded to the north by Daw End Branch canal, south by Middlemore Lane, west by Dumblederry Lane and existing commercial premises. Section 2 provides the site's full environmental setting and history.
- 1.1.3 The activities undertaken on the site will classify as a waste operation under the Environmental Permitting (England and Wales) Regulations 2016. The WTS will accept up to 125,000 tonnes per year of non-hazardous & hazardous household, commercial and industrial waste, and the HWRC will accept up to 55,000 tonnes per year of household and similar commercial and industrial waste. Treatment of wastes will be limited to manual sorting, separation, shredding or compaction. Section 3 provides details of the permitted activities.
- 1.1.4 The site will be operated under an Environmental Management System (EMS) accredited to ISO14001.
- 1.1.5 This report supports the permit application by identifying previous uses of the site and resulting ground conditions and identifying any contamination that may have resulted. Polluting substances that may be used or generated on site and pollution prevention measures are also identified and described.

2 SITE DETAILS

2.1 Site Location

- 2.1.1 Middlemore WTS and HWRS is located on Middlemore Lane, Aldridge, northeast of Walsall. The site's nearest postcode is WS9 8DL, centred around grid reference NGR SK 04914 00815. A site layout plan, development boundary and permit boundary (shown in green) are shown on drawing BR10255-002.
- 2.1.2 The site sits on an industrial estate, with the surrounding area to the north and west predominantly industrial and commercial units.
- 2.1.3 The east and south of the site is predominantly residential. The nearest residential property is located approximately 170m northeast of the Site on The Briars cul de sac. There is a field located 90m east of the site currently used for sports recreation purposes.
- 2.1.4 A number of designated habitat receptors are located within 2km of the site, including Stubbers Green Bog SSSI located 630m to the north, Swan Pool & The Swag SSSI 1,200m to the north, and Jockey Fields 1,800m to the north. Local Nature Reserves (LNR) Hay Head Wood, and Cuckoo's Nook and the Dingle are located 1,600m and 1,650m south of the site, respectively, each containing areas of designated ancient woodland. Park Lime Pits LNR is located approximately 1,600m west of the permit boundary. Further ancient woodland is located approximately 750m northeast at Leigh's Wood. There are no further designated habitats or European sites within 2km of the permit boundary.

2.2 Site Details

- 2.2.1 The site will operate a combined Waste Transfer Station (WTS) and Household Waste Recycling Centre (HWRC), which will include a small trader's scheme handling a selection of waste streams from commercial operators similar to what would be expected from households.
- 2.2.2 The WTS will accept wastes collected through the Council's services, primarily consisting of household waste collections, with secondary streams from grounds maintenance and street sweepings services. Household waste streams will be mixed residual waste (black bin waste), garden waste, mixed dry recycling waste and material collected through bulky waste collections. The facility has been designed with capacity and capability to accept future segregated waste streams, for example food waste.

- 2.2.3 The WTS will be primarily housed in a purpose built, covered building to the northwest of the development site. External bays have been allocated for the storage of suitable materials.
- 2.2.4 The HWRC will be located in the east of the development site, and the small traders' scheme will be located to the south of the WTS. All waste delivered to the HWRC and small traders' scheme will be stored in appropriate sealed containers. The majority of storage will be provided by RoRo skips for separate collection of different material streams. Suitable fully sealed or caged container provision will be provided as appropriate (i.e. for liquid wastes, WEEE, asbestos and dry recyclates). Containers for liquids will be bunded to 110% of the capacity of the primary container.
- 2.2.5 In the WTS, waste will be stored in waste delivery bays consisting of concrete push walls and impermeable surfaces with secondary, site-wide, containment. Site drainage and infrastructure will be regularly inspected for its condition.
- 2.2.6 The whole site will benefit from a sealed surface water drainage system. This also effectively provides secondary containment for the reception areas and outloading areas of the facility.
- 2.2.7 There will be no direct emissions to surface water or groundwater from the WTS, which will drain to foul sewer. Only clean water will be discharged to local surface water sewer system. The drainage system for the HWRC is equipped with interceptors and an Aqua-Filter and Aqua-Swirl to remove oil and suspended solids prior to emission to surface water. Both systems can be isolated in the event of an emergency, such as a fire or major spillage, to prevent water leaving site.

3 CONDITION OF LAND

3.1 Environmental Setting

Superficial Geology

- 3.1.1 According to BGS mapping, the superficial deposits underlying the southern extent of the site are Devensian Till consisting of diamicton, classified as a Secondary undifferentiated aquifer. In the northern extent the site is underlain by Devensian fluvioglacial deposits consisting of sand and gravel, classified as a Secondary A aquifer.

Bedrock Geology

- 3.1.2 BGS Mapping indicates that the southern extent of the site is underlain by bedrock geology of the Pennine Middle Coal Measures Formation consisting of mudstone, siltstone and sandstone, while the northern extent is underlain by mudstone, sandstone and conglomerate of the Etruria Formation. Both are classed as a Secondary A Aquifer.

Surface Water Features

- 3.1.3 There are no natural watercourses within the site area, with the closest Main River being the Ford Brook, located over 2.5km to the west. The Daw End Branch Canal flows adjacent to a section of the northern site boundary.
- 3.1.4 The closest natural watercourse is the Anchor Brook which is located approximately 50m to the north-east of the site at its closest point. The watercourse flows in a northwesterly direction in an open channel across the playing fields to the south-east of the site. The watercourse then enters a culvert adjacent to Middlemore Lane, approximately 150m to the east of the site, passing beneath industrial units and sports fields to the east of the site, and then discharging at a small inlet on the southern bank of the canal, approximately 35m to the north-east of the site.
- 3.1.5 An open channel from the canal overflow emerges from a culvert approximately 150m to the north of the site within the industrial estate. The open channel continues to flow north-westwards, passing beneath the Ibstock Brick quarry, then discharges to 'The Swag' waterbody, which ultimately discharges to the Ford Brook.
- 3.1.6 The Environment Agency's Flood Map for Planning shows the site to be located wholly within Flood Zone 1, which indicates a low probability of flooding (less than a 1 in 1,000 annual probability of river or sea flooding).

3.1.7 The 'Environmental Network Flood Risk' map in the Walsall Council Site Allocation Document (SAD) shows that eastern areas of the site are located within an area of Flood Zone 3, however a Flood Risk Assessment undertaken by Wardell Armstrong in January 2022 found that more detailed modelling of surface water proved the site to be located within Flood Zone 1 and 2 (low to medium probability of flooding).

3.2 Site History

3.2.1 The site is located on the former McKechnie Brass Limited factory, built in 1954 and demolished in early 2021. Prior to this, the site was an area of agricultural fields.

3.2.2 A review of historical information and maps of the area has been completed. Table 1 below summarises the site's history.

Table 3:1 Summary of Land Use		
Date	Site Land Use	Adjacent Land Use
c.1903	Agricultural fields	Predominantly agricultural fields. Land labelled Victoria colliery (disused) including several buildings and 2 shafts adjacent to the site on south side of Middlemore Lane. Daw End Branch canal present adjacent to site's northern extent. Railway line labelled Walsall Wood Branch runs east-west approximately 200m south, as well as second railway branching northwards running adjacent to site's south-eastern corner. Residential properties 400m east in Aldridge.
c.1914	Agricultural fields (no change)	Predominantly agricultural fields. Land adjacent to the site on south side of Middlemore Lane now labelled Speedwell colliery. Additional residential properties in Aldridge.
c.1947	Agricultural fields. (no change)	Predominantly agricultural fields. Land adjacent to the site on south side of Middlemore Lane no longer labelled as a colliery. Additional residential properties 400m east in Aldridge.
c. 1954	Construction of McKechnie Brass Ltd Factory. Manufacture of metal products including brass rods and copper wires.	Unknown
c.1962	No change	Walsall Wood Branch railway closed.
1967-1989	Historical maps now show the construction of a works building. There are approximately 5no. tanks located within the north of the site. There is a small area of vegetation within the south west of the site.	Tennis court and club immediately east. C.50m south of the site lie industrial buildings including a number of unspecified works. To the west a large industrial building is present c. 50m from the site. Approximately, 250m and beyond to the east, north east and south east of the site lie residential housing and playing fields, intermixed with unspecified industrial works and depots. To the south of the site beyond 250m the number of residential houses has increased. Red House Industrial Estate and Linley Lodge Industrial Estate have been constructed c.300m west of the site.

Table 3:1 Summary of Land Use		
Date	Site Land Use	Adjacent Land Use
2021-present	Former McKechnie Brass Limited factory demolished and land cleared	Land to the northwest is industrial estate, consisting mostly commercial units. Atlas Quarry. and associated brickworks is located 400m northwest of the site. Southeast is dominated by residential land use.

3.3 Historic Contamination

3.3.1 The following documents are available and have been reviewed relating to site condition:

- CBRE LTD., Phase I Environmental Assessment, April 2012 (BCD.GRP13/320918);
- CBRE LTD., Phase II Environmental Assessment, August 2012 (BCD.GRP13/320918/PII);
- Wardell Armstrong LLP, CA11906-005 Phase I Desk Study Report (Middlemore Lane), March 2021;
- St Francis Group (Aldridge) Ltd, Middlemore Lane, Aldridge, Remediation Verification Report, May 2021;
- Wardell Armstrong LLP, Technical Note CA11906-REM: Review of Remediation Works at Middlemore Lane, August 2021 (SF/CA11906/TN001).

3.3.2 A Phase 1 Desk Study was conducted by Wardell Armstrong LLP in March 2021. It found that there are 7no. records of pollution incidents to date, two records are located on site and relate to contaminated water. These were classified as Category 4 (no impact) and Category 3 (minor impact). The other 5no. pollution incidents were recorded off site (within 250m), and relate to oil and fuels (diesel), dust pollution and noise pollution, with a range of impacts from Category 4 (no impact) to Category 2 (significant impact, noise).

3.3.3 Within 250m of the site there are no records of pollution inventory substances pollution inventory waste transfers or pollution inventory radioactive waste.

3.3.4 As confirmed in the Remediation Verification Report produced by G&J Geoenvironmental Consultants Ltd, remediation works were undertaken by DSM in 2021. Remediation included:

- capping of landscaped areas with appropriate clean material;

- excavation and segregation of soils based on visual and olfactory evidence of contamination, followed by direct reuse (subject to validation testing) or bioremediation treatment;
- bioremediation treatment followed by re-use of material, to address potential vapour inhalation by site users and reduce the risk of organic pollution of controlled waters to acceptable levels; and
- pumping out of any contaminated groundwater encountered in excavations, which will then either be passed through a water treatment system or pumped to storage tank prior to off-site disposal.

3.3.5 The Remediation Verification Report is provided as Appendix 1 and provides the baseline conditions for the site.

3.3.6 Wardell Armstrong's Technical Note reviewing the remediation works (Appendix 2) identifies a number of areas on the site where validation sampling did not pass remedial targets including:

- north-east corner of the site - trichloroethene (TCE) in two samples at concentrations in excess of the commercial generic assessment criteria (GAC) which is considered to be low risk as it will be overlain by a service yard;
- road/car park surfacing – two samples of total (PAHs) in excess of the site remedial target. These materials are not considered to present a significant risk, given the PAHs are bound into a solid matrix;
- asbestos - 11 out of 118 samples which underwent asbestos analysis recorded the presence of asbestos fibres. The risks from asbestos contamination are considered to be low.

3.3.7 The technical note concludes that no further remediation works are deemed necessary and the site is suitable for use in the context of a commercial end use and proposed HWRC/WTS redevelopment.

4 PERMITTED ACTIVITIES

4.1 Permitted Activities

- 4.1.1 The site will operate under a bespoke environmental permit covering activities undertaken at the WTS and HWRC and Small Traders' scheme.
- 4.1.2 Only Local Authority Collected Waste will be accepted at the WTS, with permitted waste codes limited to waste packaging and household waste expected to be collected from households. The HWRC will accept mixed household waste types and similar commercial and industrial wastes will be delivered to the small trader scheme. These waste types are aligned with those permitted in Standard Rules Standard Rules SR2015 No20 75kte.
- 4.1.3 The Transfer Station shall not accept in excess of 125,000 tonnes per annum, and the Household Waste Recycling Centre and Small Trader Scheme shall not accept in excess of 55,000 tonnes per annum.
- 4.1.4 There will be no treatment of wastes on site, with the exception of manual sorting, separation, shredding or compaction for disposal.
- 4.1.5 The site has been designed to provide environmental protection for land, water and air and will be operated in accordance with the operator's ISO14001 accredited Environmental Management System.
- 4.1.6 Potential hazards that could cause harm are subject to strict preventative or control measures to ensure that all risks are minimised. An Accident and Amenity Risk Assessment has been developed to demonstrate how the site will be operated to prevent unacceptable risk to human health and the environment, and is provided in support of the environmental permit application.

4.2 Potentially Polluting Substances

- 4.2.1 Table 4.1 below lists the potentially polluting substances used or generated at the facility and the control measures employed to protect the environment.

Table 4:1 Potentially Polluting Substances Stored Or Generated At The Site

Substance	Use/source	Hazardous Substance?	Control measures	Risk to Soil or Water
Diesel	Fuel for site plant	Yes	Fuels will be stored in a bunded fuel tank located on impermeable surfacing. Any fuel spill from vehicles will be contained by impermeable site surfacing and sealed drainage system. Spill kit provided on site to clear any minor spillages.	Very low
Adblue	Used to reduce emissions of NO _x from site plant	No	Stored in bunded tank	Very low
Cleaning agents	Vehicle washing	Yes	Stored in suitable small containers on a bunded pallet or in a bunded cabinet. Containers are located on impermeable site surfacing with sealed drainage system providing tertiary containment. Spill kit provided on site to clear any minor spillages.	Very low

5 CONCLUSION

- 5.1.1 The previous site activities may have had the potential to cause ground pollution, and there are recorded instances of pollution as a result of previous site activities. The Remediation Verification Report is provided as Appendix 1 provides the baseline conditions for the site, following remediation of the identified contaminants.
- 5.1.2 The use of sealed drainage and impermeable surfacing during operation of the permitted activities will ensure that the site will present a low risk to receptors and ensure the current condition of the site does not deteriorate.
- 5.1.3 Permitted activities to be undertaken at the site will not present a significant risk of pollution or harm where appropriate control measures, as outlined, are undertaken.

APPENDICES

APPENDIX 1

Remediation Verification Report



St Francis Group (Aldridge) Ltd

Middlemore Lane, Aldridge

Remediation Verification Report

May 2021

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Tel: 01509 410372

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Report Title	Middlemore Lane, Aldridge, Remediation Verification Report	Site Address	McKechne Brass Ltd, Middlemore Lane, Aldridge, Walsall, WS9 8SP
Author	G&J Geoenvironmental Consultants Ltd	Contamination / Geotechnical	Contamination
Work Stage	Verification	Report Date	May 2021
Brief Description of the Report Contents	The former McKechne Brass site is being remediated in accordance with the agreed remediation strategy. This report presents the data collected to validate the site and reviews this data to verify that the site has been remediated in accordance with the agreed specification and is therefore suitable for the proposed use.		

Document Control

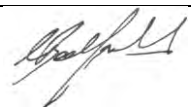
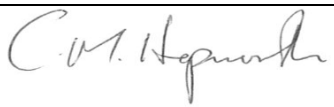
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C2 – Hotspot Validation Samples

C3 – Primary Source Validation Samples

C4 – Road Validation and Surfacing Materials

C5 – Treated Material

1.0 Introduction

1.1 Background

G&J Geoenvironmental Consultants Ltd (G&J) has been commissioned by St Francis Group (Aldridge) Ltd to carry out the verification of remediation works at the former McKechnie Brass Works, located off Middlemore Lane, Aldridge, West Midlands. It is proposed to redevelop the site for a commercial use.

This report has been prepared to fulfil Condition 5, parts e), f) and g) of Walsall Council consented Planning Application 17/0485, which read:

5(e) *The remedial measures as set out in the Remediation Statement required by part d) of this condition shall be implemented in accordance with the agreed timetable;*

5(f). *If during the undertaking of remedial works or the construction of the approved development unexpected ground contamination not identified by the site investigation is encountered development shall cease until the Remediation Statement required by part (a) of this condition has been amended to address any additional remedial or mitigation works required and agreed in writing by the Local Planning Authority.*

5(g) *A validation report confirming / demonstrating completion of the works set out in the approved remediation strategy and the effectiveness of the remediation and the details of the measures implemented together with substantiating information and justification of any changes from the agreed remedial arrangements shall be submitted to and agreed in writing by the Local Planning Authority in consultation with Pollution Control and the Environment Agency prior to the development being brought into use. (See Note for Applicant CL3) The report shall include results of sampling and monitoring carried out in accordance with the approved verification plan to demonstrate that the site remediation criteria have been met.*

Ground investigations undertaken across the site have identified ground contamination that has been determined as representing potentially significant risks to human health and controlled waters. The findings of the ground investigations are detailed in the following reports;

- *'Phase I Environmental Assessment, McKechnie Brass Ltd, Middlemore lane, **Aldridge**',* CBRE, Report Reference BCD.GRP13/320918, April 2012.
- *'Phase II Environmental Assessment, McKechnie Brass Ltd., Middlemore Lane, Aldridge',* CBRE Geo-environmental, Report Reference: BCD.GRP13/320918/PII, August 2012.

In order to mitigate the risks identified by the site investigations and assessments, a remedial strategy was developed and agreed with the Environment Agency and Walsall Council. The remedial strategy and remedial targets were developed after a detailed Options Appraisal which are described in the following report;

- 'McKechnie Brass, Middlemore Lane, Aldridge – **Remedial Options and Implementation Strategy**', G&J Geoenvironmental Consultants Ltd, Report Reference: GJ049-ROIP-V1, May 2018.

All works have been undertaken in general accordance with industry guidance and best practice including the Environment Agency *Land Contamination Risk Management (LCRM)* framework and *SC030114-R1 - Verification of Remediation of Land Contamination*.

1.2 Report Format

This report is presented as follows:

Section 2 presents a summary of the site setting and proposed development;

Section 3 presents a summary of the background to the remedial works and the pre-remediation Conceptual Site Model;

Section 4 of the report presents a summary of the remedial strategy, the remedial targets and their derivation, and the verification strategy;

Section 5 of the report presents a summary of the works undertaken during the remediation of the site;

Section 6 of the report summarises the results of the validation sampling and analysis with reference to the agreed remedial targets and the remediation objectives;

Section 7 summarises the outcome of the remedial works, the post remediation Conceptual Site Model and any further works required to meet the final remedial objectives.

1.3 Terms and Conditions

This report has been prepared for St Francis Group (Aldridge) Ltd in consideration of the proposed commercial end use of the site. Much of the environmental information relates to the site in its present state and should not be used in a different context without reference to G&J.

Although every effort has been made to ensure the accuracy of the information contained herein, no checks have been carried out to ensure the accuracy of information obtained from and collated by third parties and

no liability can be accepted for any errors or misinterpretation of the third party information where it has been incorporated into this report.

1.4 Policy Context

The primary legal and policy mechanisms for managing contaminated land are Part IIA of the Environmental Protection Act 1990 and the National Planning Policy Framework.

Part IIA provides a statutory definition of Contaminated Land and supporting guidance which defines how to decide whether or not land meets this definition. For land to be determined as contaminated land, the onus is on demonstrating with sufficient certainty that land is in such condition, by reasons of substances in, on or under the ground that;

- a) Significant harm is being caused or there is a significant possibility of such harm being caused; or
- b) Significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused.

Significant harm and how to determine if a significant possibility of such harm exists is defined in the statutory guidance which accompanies Part IIA. The guidance also defines four categories of land with respect to the risks to human health and the water environment and how the degree of risk relates to the statutory definition of contaminated land, as summarised in the following figure:

Figure 1 – Part IIA Categories

Land Category	Human Health	Water	
1	Unacceptably high probability that Significant Harm would occur if no action taken	Strong case that a Significant Possibility of Significant Pollution exists	Part IIA Contaminated Land
2	The risks are sufficient that a Significant Possibility of Significant Harm exists	Of sufficient concern to present a Significant Possibility of Significant Pollution	
3	Not low risk but does not pose a Significant Possibility of Significant Harm	The risks are not sufficient to constitute Significant Possibility of Significant Pollution	Not Part IIA Contaminated Land
4	Low risk to human health and no possibility of meeting the statutory definition	No/low risk to controlled waters and would not meet the statutory definition	

In terms of planning policy, a precautionary approach is adopted whereby it is necessary to demonstrate with sufficient confidence that the site cannot meet the statutory definition of contaminated land. Although the above categorisation is not explicitly applicable to planning decisions, a site classed as Category 4 should be considered suitable for development in accordance with planning policy. While a Category 3 site could be considered suitable, the reduced level of confidence associated with such a site means this is less likely.

2.0 Site Information

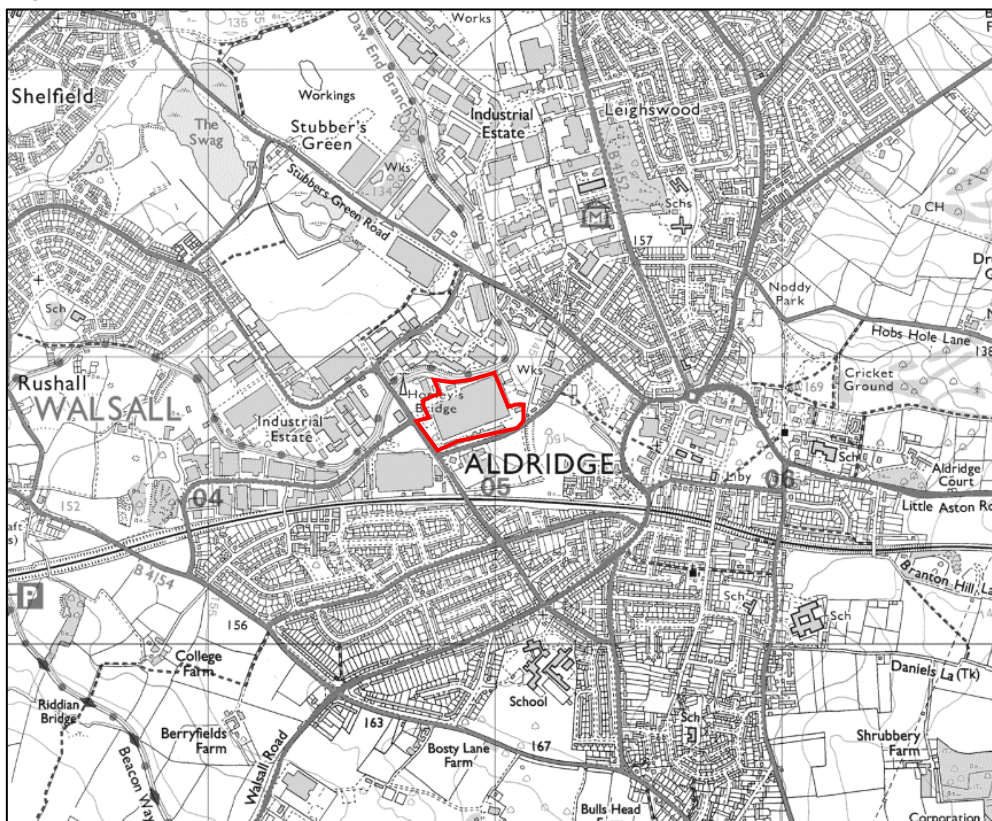
2.1 Site Location

The former McKechnie Brass site is located off Middlemore Lane, approximately 500m to the west of Aldridge town centre. The site covers an area of approximately 6 hectares and is centred on National Grid Reference 404913, 300822.

The site is roughly rectangular in shape and was previously occupied by a brass foundry. The site generally comprised industrial buildings and an office block set on hardstanding. The northern boundary of the site is formed by the Wyrley and Essington Canal, the southern boundary by Middlemore Lane, the western boundary by Dumblederry Lane and a sports and social club to the east. The surrounding area is predominantly industrial.

The site is essentially flat and level. A pre-remediation topographical survey of the main foundry area showed a slight fall from approximately 147mAOD in the south-west and west of the site to 145mAOD in the north-east corner. In the far south-west corner the land was higher at 150mAOD and the change of levels was previously accommodated by a slope (149mAOD to 147.5mAOD).

Figure 2.1 - Site Location



2.2 Geology, Hydrogeology and Hydrology

The site is shown to be underlain predominantly by the mudstones of the Etruria Formation, with the Pennine Middle Coal Measures shown in the south western corner of the site. Both these units in turn are overlain by superficial deposits comprising Glaciofluvial Sand and Gravel and / or Glacial Till. Ground investigation data suggests layers of Made Ground up to maximum depths of 3.3mbgl are present and comprise of pockets of sandy clay with fragments of clinker, ash, coal, brick and concrete.

Both the underlying Etruria Formation, Pennine Middle Coal Measures and Glaciofluvial Sand and Gravel are considered to be Secondary A aquifers, meaning that permeable layers are present capable of supporting water supplies at a local rather than strategic scale, and in some cases supporting important base flow to rivers.

The Anchor Brook generally flows in a north westerly direction within a culvert beyond the eastern boundary of the site. It is understood that the culvert is operated with a sluice gate which diverts the water into the Wyrley and Essington Canal when closed and into a public sewer beneath the canal when open.

2.3 Development Proposals

It is understood that it proposed to develop the site for commercial use.

3.0 Background to the Remedial Works

3.1 General

The investigation undertaken by CBRE, and the subsequent G&J risk assessments, identified contamination at the site that was considered to represent a potentially significant risk to human health and / or controlled waters. A number of primary sources, including historical USTs and ASTs, were identified throughout the site, several of which were not targeted by the previous investigations due to access limitations. These sources are summarised in Table 3.1.

Table 3.1 – Primary Sources

Potential Sources	
Source 1 – Garage Area and UST	Source 8 – Waste Solvent Store
Source 2 – Diesel ASTs	Source 9 – Effluent treatment plant
Source 3 – Hydraulic Oil ASTs	Source 10 – Transformer units
Source 4 – Waste oil ASTs	Source 11 – Infilled Wharf
Source 5 – Oil Water Separator	Source 12 – Tank farm
Source 6 – Diesel Generator	Source 14 – Drum Storage
Source 7 – Pickling tanks and former TCE Plant.	

Localised contamination was identified, primarily in the form of hydrocarbons, based on visual and olfactory evidence of contamination and / or elevated hydrocarbon concentrations. Three potential hotspots were identified based on the investigation data, located around boreholes BH101, BH106 and BH108, otherwise the potential for hotspots of contamination, primarily from hydrocarbons and solvents (TCE), was noted across the site. BH101 and BH106 were located close to former waste oil storage tanks (Source 4), while BH108 was in the location of the former garage (Source 1), which included a below ground tank. The locations of the potential sources and the three hydrocarbon hotspots are shown in Figure 3.1. The locations of transformers are not shown as it is understood there were several and their locations are not recorded in the previous reports.

Figure 3.1 – Identified potential hydrocarbon hotspots



3.2 Pre-Remediation Conceptual Site Model (CSM)

The outcome of the investigations and the subsequent risk assessments showed that the following pollution linkages were identified as being potentially significant and would therefore require mitigation.

- PL1 Exposure of future site users to contamination in soil via direct contact and subsequent dermal absorption and ingestion
- PL2 Exposure of future site users to contamination in soil via inhalation of site derived dusts
- PL3 Exposure of future site users to contamination in soil via the inhalation of vapours
- PL4 Leaching of contamination in soil through the unsaturated zone to the shallow groundwater and via the saturated ground to the Anchor Brook / Wyrley and Essington Canal

3.3 Summary of Remediation Objectives

In order to address the identified pollution linkages a remedial scheme was required to meet the following objectives;

- break direct contact pathways by preventing direct exposure of future site users to affected soils (PL1 and PL2);
- remediation of organic contaminants within soil to address potential unacceptable risks to human health via vapour inhalation pathway (PL3);
- remediation of organic contaminants within soil (and groundwater) to address potential unacceptable risks to controlled waters (PL4); and
- to meet planning requirements on the suitability of the site for the proposed redevelopment.

4.0 Summary of Remedial Measures

4.1 Remedial Strategy

After consideration of various remedial options, the following strategy was considered the most appropriate in terms of effectiveness, sustainability and cost;

- Capping of landscaped areas with appropriate clean material to prevent exposure of site users to contamination via dermal contact, ingestion and dust inhalation;
- Excavation and segregation of soils based on visual and olfactory evidence of contamination, followed by direct reuse (subject to validation testing) or bioremediation treatment;
- Bioremediation treatment followed by direct re-use of material, to address potential vapour inhalation by site users and reduce the risk of organic pollution of controlled waters to acceptable levels; and
- Pumping out of any free product / contaminated groundwater encountered in excavations, which will then either be passed through a water treatment system comprising oil separators and sand / carbon filters prior to discharge, or pumped to storage tank prior to off-site disposal.

The remediation strategy is described in detail in the G&J 'Remedial Options and Implementation Strategy' report referenced in Section 1.

Where contamination 'hotspots' have been identified, soils were to be excavated and those showing obvious visual or olfactory evidence of contamination separated for treatment via bioremediation. Those not showing evidence of contamination were to be separated and samples taken to validate the material, which would determine whether it could be re-used or whether treatment would be required.

The rest of the site, particularly the potential source areas of contamination described in Section 3.1, were to be subject to a watching brief and validation sampling and analysis, as appropriate.

In addition, all areas were to be the subject of a 'surge', whereby all slabs, foundations and other below ground structures would be broken out and removed. Any soils showing evidence of contamination that had not been previously identified were to be excavated and treated as above.

The remediation and validation works were referenced to a 20 x 20m site grid, as shown in Figure 4.1 and Appendix A1.

Figure 4.1 – Site Reference Grid



4.2 Remedial Targets

In the absence of a site specific DORA, and in line with remediation works previously agreed with the EA representative for the area, nominal soil remedial targets were derived for the avoidance of gross pollution. The remedial targets used to validate excavations and determine the suitability of the soils for re-use are presented in Table 4.1.

Table 4.1 – Remedial Targets

Contaminant	Remedial Targets (mg/kg)
Total Petroleum Hydrocarbons	5000
Total PAHs	500
LNAPL Free Product	Removal
N/A	No obvious visual or olfactory evidence of significant contamination

In addition to the targets in Table 4.1, reference has been made to Generic Site Assessment Criteria for a commercial land use for other any other contaminants and individual hydrocarbon fractions.

4.3 Verification Sampling

As part of the works to verify the remediation has been completed successfully, a programme of verification sampling and analysis was undertaken which comprised the following:

- Site wide verification sampling was undertaken on a grid based system, with samples of Made Ground taken from each 20 x 20m grid square. Each sample was tested for its suitability for use with a chemical suite comprising metals, asbestos, sulphate, cyanide, pH, phenols, PAHs, petroleum hydrocarbons (TPHCWG) and BTEX, with selected samples tested for VOCs and PCBs.
- Verification samples taken from remediation (hotspot) excavations at a frequency of minimum 1 per 20 x 20m grid square from the base, and every 10m along the faces of excavations. Any small excavations would be verified by a minimum of 1 sample from each excavation face and base. Verification samples would be analysed for the contaminants of concern (i.e. those which had resulted in the identification of a hotspot) as a minimum.
- Remediated, clean site won and imported material (if required) tested at a rate of one sample per 250m³ for the first 5000m³ reducing to 1 sample per 1000m³ thereafter if materials are reasonably consistent.
- Verification samples taken from the trial pits targeting the potential primary 'source' areas described in Section 3.1. Each sample was tested for a suite reflecting the nature of the source and the potential contaminants.

5.0 Remediation Works

5.1 Summary of Works Undertaken

The main remediation and validation works were preceded by enabling works, which comprised the demolition / removal of the remaining structures on site which were undertaken during late 2020. A number of hard standing areas were left in situ to a) protect live sewer infrastructure running beneath the road or b) provide the post-remediation construction team with hard surfaced lay down areas / site compounds.

Following this, **the site was subjected to a 'surge' (turn over down to 2.0m.bgl, or natural ground whichever was the shallower)**, where slabs, foundations and other below ground obstructions were broken out and removed to be crushed.

All remediation and earthworks were referenced to the 20 x 20m site grid (shown in Figure 4.1), to aid with the tracking of material movements and recording the locations of hotspots and other site features.

The remediation and validation works comprised 3 main elements;

- a) The inspection of surged soils and collection of verification samples from across the site at a frequency of 1 per 20 x 20m square which made up the site grid, as shown in Figure 4.1;
- b) The excavation of contaminated soils from the three potential hotspots identified through the previous investigation works (as described in Section 3.1), plus any others identified during the remediation works **through visual and olfactory evidence during the earthworks ('gross contamination') or the failure of verification samples taken as part of a)**. Following excavation, verification samples were collected from the faces and bases of the remedial excavations; and
- c) The collection of verification samples collected from trial pits targeting the primary sources described in Section 3.1.

In addition to the above, samples were also taken of hard materials that formed car parks and roads that were to remain in-situ, to determine whether or not they contained coal tar (i.e. were tarmac or asphalt). Further validation samples were also taken along the edges of the surged areas where they abutted retained roads to provide certainty that the likelihood of residual contamination beneath the roads was negligible to very low following the remediation works.

Remediation and validation work began on the eastern boundary of the site in January 2021 with surging generally progressing westwards across the site. All Made Ground was excavated down to 2.0m.bgl or natural ground, which was inspected to identify any obvious evidence of contamination.

Photographs taken during the remediation works are presented in Appendix B.

5.1.1 Treatment Area

Soils identified as contaminated were excavated and transported to a treatment area located on hardstanding in the south-east of the site, within grid squares N14 and N15. Soils were formed into windrows to undergo bioremediation treatment, whereby soils would be turned to introduce oxygen and enhance natural biodegradation processes.

5.2 Grid Square Validation

The first validation grid samples were taken on 27 January 2021 from around grid rows J to N, columns 13 and 14, in the east of the site. Remediation and validation works continued until April 2021, with the final grid square samples taken on 30 March 2021. The last grid squares to be validated were K8-K9 and L8-L9 in the south-central part of the site, and N14-N16 in the south-east. Samples were generally taken from shallow trial pits at the centre of each grid square after surging had taken place or where soils were less homogenous via the collection of representative composite samples from across the entire grid square.

Figure 5.1 shows an outline around the grid squares from which validation samples were taken.

Figure 5.1 – Grid Squares Validated



5.3 Hotspot Validation

The three hotspots described in Section 3.1 were subject to excavation in order to remove affected soils, followed by validation sampling of the faces and bases. The hotspots were centred around former investigation positions, and were named as follows:

- Hotspot 1 (HS1) – In the south-east of the site around BH108 and underground tanks associated with the garage;
- Hotspot 2 (HS2) – In the north-east around BH106; and
- Hotspot 3 (HS3) – In the north-west, around BH101 and close to former tanks and the effluent treatment plant

Excavation of HS1 was undertaken on 1 March 2021. This essentially involved removing the underground tanks and obviously contaminated soil to the treatment area, and subsequent validation of the excavation. The standpipe within BH108 was excavated during these works.

HS2 (BH106) was located beneath the road on a bend in the north-eastern corner of the site. The road ran close to a live sewer and was to remain in situ. As such, excavation of the potential hotspot was not possible. Instead, verification samples were taken from trial pits on the inside of the road bend. The samples were taken on 22 March 2021. No obvious evidence of significant contamination was noted in the trial pits.

Similarly, HS3 (BH101) was also located within the retained road that runs along the northern site boundary, and excavation was again not possible. Trial pits were therefore excavated on both sides of the road to allow the collection of validation samples from as close to the location of BH101 as possible.

5.4 Source Area Validation

Trial pits were excavated to target the source areas described in Section 3.1, and validation samples taken for analysis. Given the location of many of the former transformers was unknown, PCBs were added to the analysis suite for most of the source areas and some of the grid squares where transformers are believed to have been present.

Excavation works were undertaken around Source 2 to remove contaminated soils, after elevated hydrocarbon concentrations were detected in the validation samples. The excavation was subsequently validated through taking further validation samples from the faces and base.

5.5 Car Park and Road Validation

It was initially planned to retain only the eastern and northern roads around the site, which were located above the live sewer. However, it was subsequently decided (in agreement with the site purchaser) to retain the entirety of the western road that runs around the edge of the site (which contained the 'live' sewer infrastructure for the previous buildings), plus the access road to the south, plus a small car park in the south-west of the site for the potential use as a lay down area / site compound for the subsequent development construction works.

Validation samples were therefore taken from trial pits excavated along both sides of the southern and western sections of the road. Samples of the surfacing material were also taken from the road and the car park, to determine if coal tar was present.

5.6 Volumes Excavated

Approximately 300 – 400m³ of material was excavated from HS1, with a further 50 – 100m³ removed from the excavation around Source 2. The contaminated material was transported to the treatment area.

6.0 Validation Sampling and Analysis

6.1 General

Validation sampling was undertaken for the following reasons:

- To demonstrate the suitability of soils for direct re-use;
- To demonstrate that contaminated soils (those not meeting the site remedial targets) had been removed from hotspot areas, and from any other locations identified during earthworks;
- To demonstrate the suitability of soils for re-use after treatment;

The results of all validation sample analysis are presented in Appendices C1 to C5

6.2 Grid Square Validation Sampling

As described in Section 5.1, the whole **site was subjected to a 'surge'** down to 2.0m.bgl or natural ground. One representative sample of Made Ground was taken from each 20 x 20m grid square, providing a total of 94 samples from 94 grid squares. Each grid square sample was analysed for a suite comprising metals, asbestos, sulphate, cyanide, pH, phenols, PAHs, petroleum hydrocarbons (TPHCWG), BTEX with selected samples tested for VOCs and / or PCBs.

None the 94 grid samples exceeded remedial targets, or generic assessment criteria for a commercial land use, and were therefore considered to verify the soils as suitable for use.

A screening sheet and laboratory analysis certificates for samples collected during the grid square validation testing are included in Appendix C1.

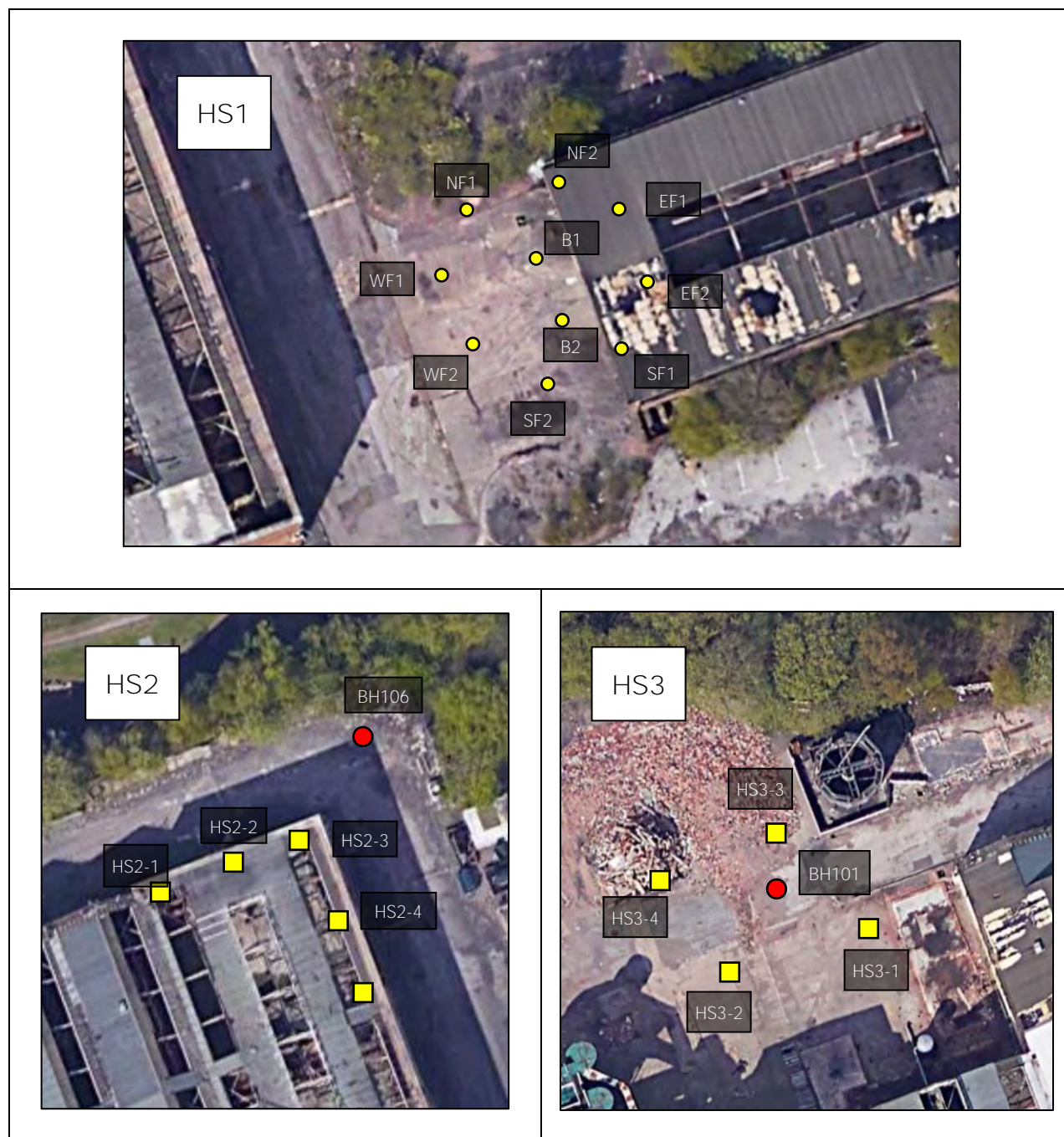
6.3 Hotspot Validation

Contaminated soils were excavated from HS1, with the removal of contaminated soils confirmed by visual inspection and by taking validation samples from the sides of the excavation at a minimum frequency of 1 every 10m, and from the base of the excavation at a frequency of 1 every 20m x 20m area. A total of 10 validation samples were taken from the faces and base of the HS1 excavation (2 from each face and base), as shown in Figure 6.1.

As discussed in Section 5.3, excavation of HS2 and HS3 was not possible due to the original boreholes around which the hotspots were centred being located within the road, beneath which ran a live sewer and which

was therefore being retained. Validation samples were therefore taken from trial pits located in accessible areas along the edge of the road, as shown in Figure 6.1.

Figure 6.1 – Hotspot Validation Sample Locations



None of the validation samples from HS1, or from the trial pits around HS3 failed the remedial targets, or exceeded the GAC for a commercial land use.

However, two of the samples from trial pits close to HS2 recorded trichloroethene (TCE) at concentrations in excess of the commercial GAC. Concentrations of 13.8mg/kg and 5.6mg/kg were recorded in HS2-2 and HS2-5, compared to a GAC of 2.6mg/kg. No further excavation was possible in this area due to the presence of the road and the sewer, and it is considered that a localised hotspot may therefore remain in this area beneath a portion of the road. Whilst the published commercial GACs are considered to be a conservative criteria, the elevated TCE concentrations may need further consideration if buildings are to be constructed in this area in the future in order to address any potential vapour risks.

A screening sheet and laboratory analysis certificates for samples collected from the hotspots are included in Appendix C2.

6.4 Source Validation

A series of trial pits were excavated in or close to the locations of the primary sources described in Section 3.1, several of which were in the form of either ASTs or USTs, the majority of which were decommissioned and removed prior to the commencement of groundworks. A cluster of these sources were located in the north west of the site (in the same general location as HS3), with others either associated with the hotspots described above (and therefore not subject to additional investigation), or in isolated locations.

The drawing in Appendix A2 shows the locations of all trial pits excavated to target the identified primary sources.

Two of the samples from the primary source trial pits recorded contaminant concentrations in excess of the remedial targets. These were both from the vicinity of Source 2 (former diesel tanks to the south of HS1 and the former garage). The maximum recorded concentration of 7309mg/kg was only marginally above the remedial target of 5000mg/kg. However, excavation works were undertaken in this area to remove potentially contaminated soils, with validation samples taken from faces and base. All these samples recorded contaminant concentrations below remedial targets or commercial GACs.

A screening sheet and laboratory analysis certificates for samples collected from the primary source trial pits are included in Appendix C3.

6.5 Road Validation Samples.

It was agreed with Walsall District Council that the existing site roads would be retained to provide suitable haul roads and laydown areas for future development of the site. A validation exercise was undertaken to confirm if there was potential for contamination to be present underneath the road surface. A number of validation trial pits were excavated at 20m intervals along either side of the road where there was access.

The samples were then tested for a suite of contaminants comprising metals, asbestos, inorganics, PAHs, petroleum hydrocarbons (TPHCWG), BTEX and VOCs.

In addition, samples of the surfacing material were taken from along the road and the car park in the south-west, to determine if coal tar was present.

The locations of the road validation samples and the surface material samples are shown in the drawing in Appendix A3.

All the road face validation samples recorded contaminant concentrations below the remedial targets and / or commercial GACs.

Of the nine samples of surfacing material taken from the road and car park, two recorded high concentrations of PAHs, indicating the potential presence of coal tar. These samples were Road Tarmac 2 (total PAH 1260mg/kg), and Tarmac 5 (Total PAH 2420mg/kg). All the other samples recorded very low PAH concentrations and were therefore considered not to contain coal tar. The results suggest a mixture of surfacing materials of different ages are present along the road and car park.

Although two samples recorded PAHs above the remedial target, the target for PAH is not risk driven and was agreed with the EA as a mechanism to prevent gross pollution. Given that they are bound in a solid surfacing material, there is not considered to be any significant human health or controlled waters risks associated with this material in its current location. In addition, the affected materials could also be re-used on site (following crushing into an aggregate) once the roads and car parks have been removed by the subsequent development.

A screening sheet and laboratory certificates for the road validation and surfacing material samples is presented in Appendix A4.

6.6 Validation of Treated Soils

Approximately 400-500m³ of contaminated soil was removed to the treatment area during the remediation works. The treatment area was located on good quality hardstanding in a former car park in the south-eastern corner of site.

Validation samples were taken at a minimum frequency of 1 for every 250m³ of treated material. Contaminated soils were formed into a single windrow (Windrow 1), and three samples (Windrow 1-1 to Windrow 1-3) were initially taken on 25 March 2021, of the material that had originated from HS1. Two of the three samples recorded total hydrocarbons above the remedial target of 5,000mg/kg, with the three samples recording concentrations of 8,864mg/kg, 85mg/kg and 12,793mg/kg.

It was intended that the soils would undergo further treatment, along with the small amount of soil added from excavations at Source 2. However, towards the end of April, the soils were re-used in error by the contractor. Inspection by the geo-environmental consultant of the approximate area where it is understood to be re-used did not reveal any evidence of significant contamination, and no evidence of contaminated soils near the surface was noted across the site as a whole.

Although in excess of the remedial target, none of the concentrations recorded in the three samples exceeded generic assessment criteria for a commercial land use, and were therefore highly unlikely to represent a significant risk. It was therefore considered that no further action was required, and that the soils were suitable for use in the context of a proposed commercial development.

Laboratory certificates for the samples taken from the windrow are included in Appendix A5.

6.7 Asbestos

Previous investigations on site included only limited testing for asbestos. As such, testing for asbestos on validation samples was undertaken to allow a post-remediation assessment of the risks from asbestos to the proposed development.

During the site works, 11 out of 118 samples which underwent asbestos analysis recorded the presence of asbestos fibres, which was generally in the form of microscopic fibre bundles or cement debris.

The risks from asbestos contamination are considered to be low, however it is considered that a cover layer may be required in any landscaped areas given that appropriate soil is required to act as a suitable growing media. This capping layer may need to comprise a barrier layer of 100mm coarse aggregate or a geotextile membrane (subject to further testing confirming presence of asbestos), overlain by 300mm of clean imported soil to act as a suitable growing media.

7.0 Summary & Conclusions

7.1 Remediation Validation

Remediation works on have resulted in approximately 400-500m³, of hydrocarbon contaminated soil being removed for treatment, primarily from an excavation around an old underground storage tank. The excavated material was re-used in error prior to it being confirmed that it passed the site remedial targets. However, although the original testing of the material showed concentrations exceeding the site remedial target for **total hydrocarbons, which is a nominal target considered to be indicative of potential 'gross' contamination**, there were no exceedances of the generic assessment criteria (GAC) for a commercial land use, suggesting the material does not present a significant risk. Furthermore, inspection of the area where it is understood the material was re-used did not reveal any evidence of significant or gross contamination. It is therefore considered that there are no residual significant risks associated with this material.

Validation sampling and analysis undertaken across the site, either based on the site grid, investigation of potential primary sources or to validate soils abutting a road to left in-situ, have resulted in all samples passing remedial targets, with the following exceptions;

7.1.1 North-east corner of the site

Excavation of a potential hotspot in the north-east of the site was not possible due the presence of a live sewer and retained site road. Trial pits were undertaken to the edge of the road and samples taken for analysis, which revealed trichloroethene (TCE) in two samples at concentrations in excess of the commercial GAC. Although there is a likelihood of a hotspot of TCE remaining in this area beneath a portion of the road, it is considered that this localised contamination does not currently present a significant risk. Whilst the published commercial GACs are considered to be a conservative criteria, the elevated TCE concentrations may need further consideration if buildings are to be constructed in this area in the future in order to address any potential risks via the vapour inhalation pathway.

The approximate affected area is shown in Figure 7.1.

Figure 7.1 – Area of Residual TCE Contamination



7.1.2 Road / Car Park Surfacing

Two out of nine samples of surfacing material recorded total PAHs in excess of the site remedial target, indicating the presence of coal tar. The remediation target for PAH is not risk driven and was agreed with the EA as a mechanism to prevent gross pollution. These materials are not considered to present a significant risk, given the PAHs are bound into a solid matrix. In addition, the affected materials could also be re-used on site (following crushing into an aggregate) once the roads and car parks have been removed by the subsequent development..

7.2 Post Remediation Conceptual Model

Prior to the remediation of the site, the following pollutant linkages were considered to be potentially significant;

- PL1 Exposure of future site users to contamination in soil via direct contact and subsequent dermal absorption and ingestion
- PL2 Exposure of future site users to contamination in soil via inhalation of site derived dusts

PL3 Exposure of future site users to contamination in soil via the inhalation of vapours

PL4 Leaching of contamination in soil through the unsaturated zone to the shallow groundwater and via the saturated ground to the Anchor Brook / Wyrley and Essington Canal

The removal of primary sources such as tanks and the successful remediation / validation of the organic contamination in soil is considered to have addressed PL4, and partly addressed PL1 and PL2 (direct contact and dust generation will also be addressed by the clean cover, described below) and PL3 (inhalation of vapour).

PL3 would only remain potentially significant if a building was constructed in the very north-eastern corner of the site, where residual contamination from TCE remains and the risks from vapour may need to be reassessed.

7.3 Further Works

No further remediation works are deemed necessary, as it is considered that the aims of the remediation works have been achieved and the site is suitable for use in a commercial end use context. However, should the north and eastern road and / or sewer be removed in the future, it may be beneficial to excavate any localised materials with residual TCE contamination as part of the redevelopment works.

7.3.1 Cover Layer

Given that appropriate soil is required to act as a suitable growing media, and in order to address any residual risks associated with PL1 and PL2, a cover of clean soil should be placed in any landscaped areas. The cover layer may need to comprise a barrier layer of 100mm coarse aggregate or a geotextile membrane (subject to further testing confirming presence of asbestos), overlain by 300mm of clean imported soil to act as a suitable growing media.



Appendix A – Drawings



A1 — Site Grid




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Only figured dimensions to be taken from this drawing, do not scale.

The Author of this drawing does not accept any liability for details or information provided by outside organisations.


Boundaries are shown for indicative purposes only, all boundaries are to be confirmed by the legal owner.

Client		
Contract number C10051		
Address Middlemore Lane, Walsall WS9 8DN		
Drawing Remediation grid		
<div><div><div>dsm</div><div></div></div><div>Arden House, Arden Road, Heartlands, Birmingham, B8 1DE Tel: +44 (0)121 322 2225, Fax: +44 (0)121 322 2227 Email: mail@dsmgroup.info</div></div>		
Scale n/a	Sheet Size A1	
Date 16/01/2021	Drawn RD	Checked
Job No	Drawing No	Rev

A2 – Primary Source Trial Pit Locations

Primary Source Trial Pits

Legend

 Trial Pit Location



A3 – Road Validation and Surfacing Material Sample Locations

Road Validation and Surfacing Samples





Appendix B – Photographs



21/01/21 Demolition of western half of former McKechnie brass building prior to earthworks



01/02/21 By the start of February the majority of the remaining building had been demolished



27/01/21 Surging on the eastern half of the site was underway, several trial pits were excavated to validate grid square (K14) soils.



09/02/21 Surging progress slowed in early February due to poor weather



19/02/21 Surging also commenced from the western end of site in late February where ground was generally drier



24/02/21 Surging and validation were completed in the footprint of the western half of the original warehouse structure



24/02/21 Looking from the west towards the centre of the site. Due to wet ground conditions limited surging had taken place since January



01/03/21 Excavation of fuel tank adjacent to HS1 and validation of the soils surrounding the hotspot



01/03/21 Excavation of fuel tank adjacent to HS1 and validation of the soils surrounding the hotspot



01/03/21 Fuel tank removed from the surrounding brick chamber. The tank was in good condition and showed no signs of leaking



01/03/21 Photo shows the natural clean soils in the base and face of the excavation



01/03/21 Impacted ground from around HS1 placed in the treatment area, placed upon a impermeable membrane and surrounded by a bund.



16/03/21 Surging of the site and grubbing out of concrete foundations and pipe runs continued in March



22/03/21 The photo above shows the excavation of validation trial pits adjacent to the retained road infrastructure and HS2



22/03/21 The photo above shows the excavation of validation trial pits around HS2



22/03/21 Excavation of validation trial pits around the location of Source 12



22/03/21 Excavation of validation trial pits around the location of Source 2. The tank wall shown in the picture would be removed in April



22/03/21 Excavation of validation trial pits around the location of Source 7



22/03/21 Excavation of validation trial pits around the location of Source 8



25/03/21 Excavation of validation trial pits around the location of HS3



25/03/21 Excavation of validation trial pits around the location of HS3



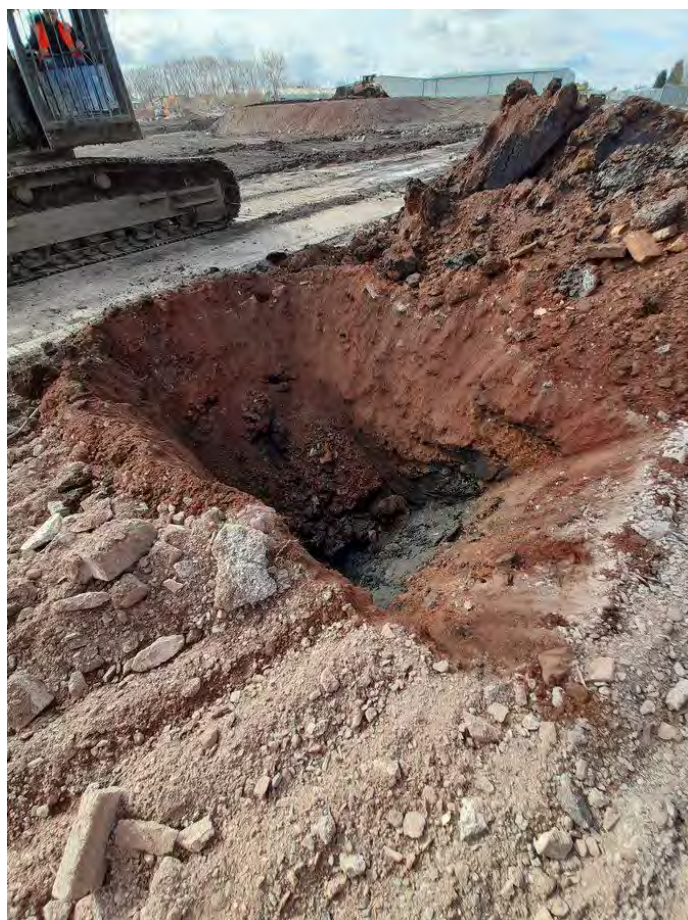
25/03/21 Excavation of validation trial pits around the location of Source 11



25/03/21 Excavation of validation trial pits around the location of Source 3



25/03/21 Excavation of validation trial pits around the location of Source 4



25/03/21 Excavation of validation trial pits around the location of Source 9



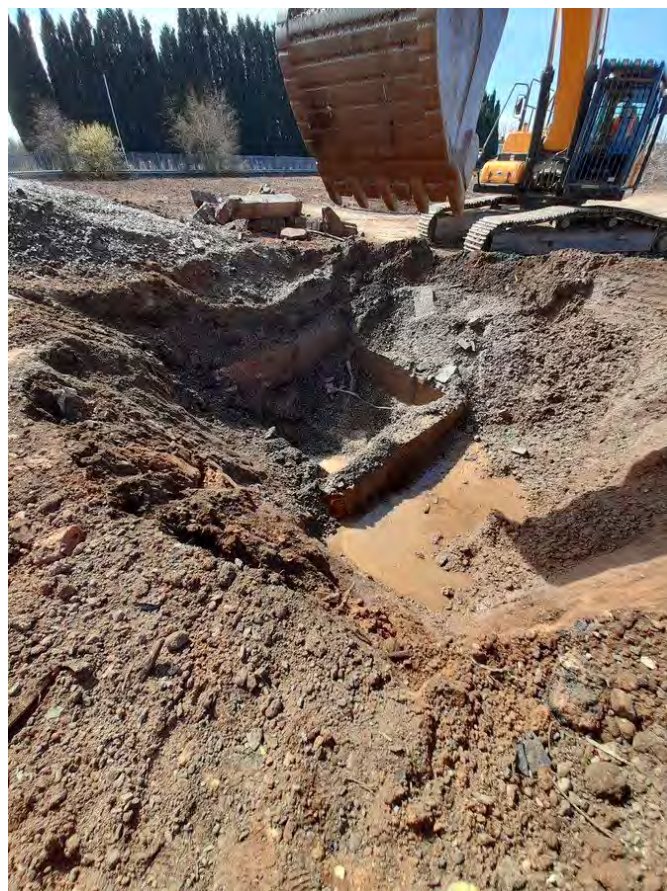
26/03/21 Excavation of road face samples



26/03/21 Excavation of road face samples



26/03/21 Excavation of western carpark validation samples



13/04/21 Excavation of tank structure in the location of source 2



13/04/21 Picture showing the completed site after all validation grid samples have been taken

Appendix C – Chemical Analysis Results

C1 — Validation Grid Samples



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LE12 8PY

DETS Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-01136

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 01/02/2021

Sample Scheduled Date: 01/02/2021

Report Issue Number: 1

Reporting Date: 05/02/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



DETS Ltd
Unit 1, Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	I14	J11	K14	K13	L14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 05/02/2021	DETS Sample No	523266	523267	523268	523269	523270

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	6.8	7.0	6.8	6.6	7.3
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	< 200	571	286	316	< 200
Total Sulphate as SO ₄	%	< 0.02	MCERTS	< 0.02	0.06	0.03	0.03	< 0.02
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	0.3	4.2	0.4	< 0.1	< 0.1
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.2	2.4	0.3	< 0.1	< 0.1
Arsenic (As)	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	9	14	9	7	8
Copper (Cu)	mg/kg	< 4	MCERTS	< 4	44	< 4	< 4	7
Lead (Pb)	mg/kg	< 3	MCERTS	6	48	6	5	7
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	3	29	5	< 3	7
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	10	132	17	6	26
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	< 6	2780	24	< 6	< 6

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21	27/01/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	L13	N13	N12		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 05/02/2021	DETS Sample No	523271	523272	523273		

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		
pH	pH Units	N/a	MCERTS	7.4	7.3	8.0		
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2		
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	< 200	368	468		
Total Sulphate as SO ₄	%	< 0.02	MCERTS	< 0.02	0.04	0.05		
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5		
Organic Matter	%	< 0.1	MCERTS	0.2	< 0.1	0.2		
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.1	< 0.1	< 0.1		
Arsenic (As)	mg/kg	< 2	MCERTS	< 2	< 2	< 2		
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1		
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	< 0.2	< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS	6	12	4		
Copper (Cu)	mg/kg	< 4	MCERTS	5	< 4	5		
Lead (Pb)	mg/kg	< 3	MCERTS	6	16	4		
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	4	6	3		
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3		
Zinc (Zn)	mg/kg	< 3	MCERTS	22	14	15		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2		
EPH (C10 - C40)	mg/kg	< 6	MCERTS	579	< 6	< 6		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	I14	J11	K14	K13	L14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 05/02/2021	DETS Sample No	523266	523267	523268	523269	523270

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.28	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21	27/01/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	L13	N13	N12		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 05/02/2021	DETS Sample No	523271	523272	523273		

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	I14	J11	K14	K13	L14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 05/02/2021	DETS Sample No	523266	523267	523268	523269	523270

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	98	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	2344	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	2446	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	5	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	29	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	456	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	490	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	2935	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21	27/01/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	L13	N13	N12		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 05/02/2021	DETS Sample No	523271	523272	523273		

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	26	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	161	< 2	< 2	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	259	< 3	< 3	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	4	< 3	< 3	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	58	< 10	< 10	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	508	< 21	< 21	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	12	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	31	< 2	< 2	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	43	< 21	< 21	
Total >C5 - C35	mg/kg	< 42	NONE	551	< 42	< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	I14	J11	K14	K13	L14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 05/02/2021	DETS Sample No	523266	523267	523268	523269	523270

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21	27/01/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	L13	N13	N12		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 05/02/2021	DETS Sample No	523271	523272	523273		

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5		



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-01136	Date Sampled	27/01/21	27/01/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	K13	N13			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 05/02/2021	DETS Sample No	523269	523272			

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5		
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5		
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10		
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10		
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5		
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10		
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5		
TAME	ug/kg	< 5	MCERTS	< 5	< 5		
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10		
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5		
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2		
Styrene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10		
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5		
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5		
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5		
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10		
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-01136	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 05/02/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
523266	I14	None Supplied	None Supplied	8.6	Brown sandy clay
523267	J11	None Supplied	None Supplied	12.9	Grey sandy clay
523268	K14	None Supplied	None Supplied	7	Light grey sandy clay with stones
523269	K13	None Supplied	None Supplied	6.6	Light grey sandy clay with stones
523270	L14	None Supplied	None Supplied	9.1	Light brown sandy clay with stones
523271	L13	None Supplied	None Supplied	6.5	Grey sandy clay with stones
523272	N13	None Supplied	None Supplied	8.5	Light grey sandy clay
523273	N12	None Supplied	None Supplied	10.1	Red sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-01136	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 05/02/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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DETS Report No: 21-01255

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 03/02/2021

Sample Scheduled Date: 03/02/2021

Report Issue Number: 1

Reporting Date: 08/02/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	G11	G12	G13	G14	H11
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523597	523598	523599	523600	523601

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE			Small bundle of Chrysotile		
Asbestos Type ^(S)	PLM Result	N/a	ISO17025			Chrysotile		
pH	pH Units	N/a	MCERTS	7.9	8.3	8.0	7.5	7.8
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	2238	1146	1211	2846	2329
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.22	0.11	0.12	0.28	0.23
Sulphide	mg/kg	< 5	NONE	< 5	< 5	10	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	2.2	2.2	3.1	2.9	2.7
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	1.2	1.3	1.8	1.7	1.6
Arsenic (As)	mg/kg	< 2	MCERTS	10	8	8	8	9
W/S Boron	mg/kg	< 1	NONE	2.6	< 1	< 1	1.1	1.2
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.5	0.4	0.2	0.3	0.3
Chromium (Cr)	mg/kg	< 2	MCERTS	14	13	11	11	14
Copper (Cu)	mg/kg	< 4	MCERTS	98	213	93	102	50
Lead (Pb)	mg/kg	< 3	MCERTS	73	126	50	55	39
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	23	16	14	19	21
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	314	349	150	189	166
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	212	51	96	16	36

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H12	H13	H14	I11	I12
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523602	523603	523604	523605	523606

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	7.6	7.8	7.3	7.4	7.1
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1785	1764	1561	1144	1696
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.18	0.18	0.16	0.11	0.17
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	3.4	3.5	2.3	2.9	3.5
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2	2	1.3	1.7	2
Arsenic (As)	mg/kg	< 2	MCERTS	8	9	7	7	8
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	13	14	12	14	11
Copper (Cu)	mg/kg	< 4	MCERTS	64	39	35	41	41
Lead (Pb)	mg/kg	< 3	MCERTS	63	40	32	33	30
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	20	20	18	24	22
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	131	103	88	102	114
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	40	65	12	29	40

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Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	I13	J12	J13	J14	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 08/02/2021	DETS Sample No	523607	523608	523609	523610	

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	7.4	7.0	7.4	6.7	
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1648	2789	2413	613	
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.16	0.28	0.24	0.06	
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	
Organic Matter	%	< 0.1	MCERTS	4.2	4.3	3.2	6.3	
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2.4	2.5	1.8	3.6	
Arsenic (As)	mg/kg	< 2	MCERTS	9	14	16	9	
W/S Boron	mg/kg	< 1	NONE	< 1	2.4	2.6	1.6	
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.3	0.3	0.4	0.3	
Chromium (Cr)	mg/kg	< 2	MCERTS	11	15	17	15	
Copper (Cu)	mg/kg	< 4	MCERTS	69	55	347	57	
Lead (Pb)	mg/kg	< 3	MCERTS	39	261	178	48	
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS	21	32	27	38	
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	
Zinc (Zn)	mg/kg	< 3	MCERTS	147	157	488	166	
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	
EPH (C10 - C40)	mg/kg	< 6	MCERTS	99	54	156	47	

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Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	G11	G12	G13	G14	H11
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523597	523598	523599	523600	523601

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	0.16	0.18	0.11	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	0.32	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	0.26	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.26	2.15	0.26	0.18	0.29
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.43	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.17	1.31	0.32	< 0.1	0.19
Pyrene	mg/kg	< 0.1	MCERTS	0.19	1.03	0.32	< 0.1	0.21
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.22	0.13	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	0.30	0.16	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.23	0.17	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.14	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	6.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H12	H13	H14	I11	I12
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523602	523603	523604	523605	523606

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	0.15	< 0.1	< 0.1	0.16
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.35	0.63	0.60	0.34	0.33
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.21	0.50	0.44	0.16	0.17
Pyrene	mg/kg	< 0.1	MCERTS	0.22	0.47	0.39	0.20	0.19
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	0.17	0.15	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.12	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	2	1.7	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	I13	J12	J13	J14	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 08/02/2021	DETS Sample No	523607	523608	523609	523610	

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	0.18	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	0.41	< 0.1	0.25	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	0.37	< 0.1	0.23	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	3.58	0.47	1.37	0.29
Anthracene	mg/kg	< 0.1	MCERTS	0.97	< 0.1	0.30	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	2.74	0.25	1.40	0.31
Pyrene	mg/kg	< 0.1	MCERTS	2.14	0.25	1.12	0.31
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.72	< 0.1	0.32	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.70	< 0.1	0.36	0.16
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.62	< 0.1	0.32	0.17
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.29	< 0.1	0.15	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.50	< 0.1	0.25	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.23	< 0.1	0.13	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.22	< 0.1	0.13	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	13.7	< 1.6	6.3	< 1.6



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	G11	G12	G13	G14	H11
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523597	523598	523599	523600	523601

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	0.04	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	13.90	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	5	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	16	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	13	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	27	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	88	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	115	< 21	34	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	4	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	4	8	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	18	11	4	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	47	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	64	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	179	< 42	50	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H12	H13	H14	I11	I12
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523602	523603	523604	523605	523606

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	3	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	5	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	I13	J12	J13	J14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523607	523608	523609	523610

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	0.07	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	7	< 2	5	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	30	< 3	19	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	20	< 10	72	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	57	< 21	95	< 21
Total >C5 - C35	mg/kg	< 42	NONE	57	< 42	95	< 42



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	G11	G12	G13	G14	H11
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523597	523598	523599	523600	523601

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	9	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	6	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	8	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	5	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	01/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H12	H13	H14	I11	I12
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/02/2021	DETS Sample No	523602	523603	523604	523605	523606

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21	01/02/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	I13	J12	J13	J14	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 08/02/2021	DETS Sample No	523607	523608	523609	523610	

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-01255	Date Sampled	01/02/21	01/02/21	01/02/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	G13	H11	J14		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 08/02/2021	DETS Sample No	523599	523601	523610		

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Trichloroethene	ug/kg	< 5	MCERTS	19	15	< 5	
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
n-Propylbenzene	ug/kg	< 5	MCERTS	9	< 5	< 5	
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	10	< 5	< 5	
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	18	< 5	< 5	
sec-Butylbenzene	ug/kg	< 5	MCERTS	12	< 5	< 5	
p-Isopropyltoluene	ug/kg	< 5	MCERTS	6	< 5	< 5	
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-01255
G & J Geoenvironmental Consultants Ltd
Site Reference: Middlemore Lane
Project / Job Ref: GJ049
Order No: None Supplied
Reporting Date: 08/02/2021

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
523597	G11	None Supplied	None Supplied	13.9	Brown loamy sand with brick and concrete
523598	G12	None Supplied	None Supplied	13.8	Brown sandy clay with stones
523599	G13	None Supplied	None Supplied	12.2	Brown loamy sand with stones
523600	G14	None Supplied	None Supplied	11.9	Brown loamy sand with brick
523601	H11	None Supplied	None Supplied	15.1	Brown loamy sand
523602	H12	None Supplied	None Supplied	17.5	Brown loamy sand with stones
523603	H13	None Supplied	None Supplied	15.3	Brown loamy sand with stones
523604	H14	None Supplied	None Supplied	16.1	Brown loamy sand with stones
523605	I11	None Supplied	None Supplied	15.1	Brown loamy sand with stones
523606	I12	None Supplied	None Supplied	16.3	Brown loamy clay with brick
523607	I13	None Supplied	None Supplied	17.2	Brown loamy sand with stones
523608	J12	None Supplied	None Supplied	17.2	Brown loamy sand with stones
523609	J13	None Supplied	None Supplied	15.9	Brown loamy sand with stones and brick
523610	J14	None Supplied	None Supplied	19.4	Brown loamy sand with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-01255	
G & J GeoEnvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 08/02/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Kent
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DETS Report No: 21-02133

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: GJ049

Sample Receipt Date: 23/02/2021

Sample Scheduled Date: 23/02/2021

Report Issue Number: 1

Reporting Date: 01/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 21-02133	Date Sampled	19/02/21	19/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	K12	L12			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: GJ049	Depth (m)	None Supplied	None Supplied			
Reporting Date: 01/03/2021	DETS Sample No	527428	527429			

Determinand	Unit	RL	Accreditation	Detected	Not Detected			
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Detected	Not Detected			
Sample Matrix ^(S)	Material Type	N/a	NONE	Small bundle of Chrysotile				
Asbestos Type ^(S)	PLM Result	N/a	ISO17025	Chrysotile				
pH	pH Units	N/a	MCERTS	8.3	8.1			
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	2607	813			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.26	0.08			
Sulphide	mg/kg	< 5	NONE	< 5	< 5			
Organic Matter	%	< 0.1	MCERTS	3.7	2.1			
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2.1	1.2			
Arsenic (As)	mg/kg	< 2	MCERTS	8	5			
W/S Boron	mg/kg	< 1	NONE	< 1	< 1			
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	< 0.2			
Chromium (Cr)	mg/kg	< 2	MCERTS	12	9			
Copper (Cu)	mg/kg	< 4	MCERTS	59	37			
Lead (Pb)	mg/kg	< 3	MCERTS	254	103			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	21	9			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	115	61			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
EPH (C10 - C40)	mg/kg	< 6	MCERTS	125	349			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-02133	Date Sampled	19/02/21	19/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	K12	L12			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: GJ049	Depth (m)	None Supplied	None Supplied			
Reporting Date: 01/03/2021	DETS Sample No	527428	527429			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	0.12	0.12		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	0.31	0.33		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	0.28	0.34		
Pyrene	mg/kg	< 0.1	MCERTS	0.24	0.30		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02133	Date Sampled	19/02/21	19/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	K12	L12			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: GJ049	Depth (m)	None Supplied	None Supplied			
Reporting Date: 01/03/2021	DETS Sample No	527428	527429			

Determinand	Unit	RL	Accreditation			
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	4	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	47	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	75	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	4	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	47	101	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	47	231	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	11	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	32	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	43	
Total >C5 - C35	mg/kg	< 42	NONE	47	274	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02133	Date Sampled	19/02/21	19/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	K12	L12			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: GJ049	Depth (m)	None Supplied	None Supplied			
Reporting Date: 01/03/2021	DETS Sample No	527428	527429			

Determinand	Unit	RL	Accreditation				
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-02133	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: GJ049	
Reporting Date: 01/03/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
527428	K12	None Supplied	None Supplied	14.2	Brown loamy sand with brick and concrete
527429	L12	None Supplied	None Supplied	12	Brown sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-02133

G & J Geoenvironmental Consultants Ltd

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: GJ049

Reporting Date: 01/03/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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DETS Report No: 21-02429

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 01/03/2021

Sample Scheduled Date: 01/03/2021

Report Issue Number: 1

Reporting Date: 05/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21	24/02/21	24/02/21	24/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H5	H6	I5	I6	J5
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 05/03/2021	DETS Sample No	528439	528440	528441	528442	528443

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	5.2	6.4	7.0	6.7	8.2
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	4604	8052	733	11120	1587
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.46	0.81	0.07	1.11	0.16
Sulphide	mg/kg	< 5	NONE	8	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	5.2	3.8	0.8	1.2	0.5
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	3	2.2	0.5	0.7	0.3
Arsenic (As)	mg/kg	< 2	MCERTS	9	13	4	20	7
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.3	0.5	< 0.2	0.3	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	12	10	6	14	11
Copper (Cu)	mg/kg	< 4	MCERTS	88	224	15	120	47
Lead (Pb)	mg/kg	< 3	MCERTS	75	80	13	51	21
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	24	22	5	38	12
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	183	404	39	215	128
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	87	109	22	< 6	21

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	J7	J8			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 05/03/2021	DETS Sample No	528444	528445			

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected			
pH	pH Units	N/a	MCERTS	7.5	6.0			
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	3466	5017			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.35	0.50			
Sulphide	mg/kg	< 5	NONE	6	< 5			
Organic Matter	%	< 0.1	MCERTS	2.9	3.8			
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	1.7	2.2			
Arsenic (As)	mg/kg	< 2	MCERTS	9	10			
W/S Boron	mg/kg	< 1	NONE	< 1	< 1			
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.4	0.4			
Chromium (Cr)	mg/kg	< 2	MCERTS	12	13			
Copper (Cu)	mg/kg	< 4	MCERTS	55	46			
Lead (Pb)	mg/kg	< 3	MCERTS	23	36			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	20	22			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	156	142			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
EPH (C10 - C40)	mg/kg	< 6	MCERTS	40	153			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21	24/02/21	24/02/21	24/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H5	H6	I5	I6	J5
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 05/03/2021	DETS Sample No	528439	528440	528441	528442	528443

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	0.18	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.36	0.23	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.12	0.16	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	0.13	0.16	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	J7	J8			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 05/03/2021	DETS Sample No	528444	528445			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	0.16		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	0.19	0.41		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	0.14	0.23		
Pyrene	mg/kg	< 0.1	MCERTS	0.12	0.22		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	0.14		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.11		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21	24/02/21	24/02/21	24/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H5	H6	I5	I6	J5
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 05/03/2021	DETS Sample No	528439	528440	528441	528442	528443

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	4	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	4	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	30	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	40	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	3	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	9	4	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	10	7	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	37	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	22	49	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	88	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	J7	J8			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 05/03/2021	DETS Sample No	528444	528445			

Determinand	Unit	RL	Accreditation			
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	5	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	7	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	27	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	39	
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21	24/02/21	24/02/21	24/02/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H5	H6	I5	I6	J5
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 05/03/2021	DETS Sample No	528439	528440	528441	528442	528443

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	J7	J8			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 05/03/2021	DETS Sample No	528444	528445			

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2			
Toluene	ug/kg	< 5	MCERTS	< 5	< 5			
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2			
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2			
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2			
MTBE	ug/kg	< 5	MCERTS	< 5	< 5			



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)					
DETS Report No: 21-02429	Date Sampled	24/02/21	24/02/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	H5	J8		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied		
Reporting Date: 05/03/2021	DETS Sample No	528439	528445		

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5		
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5		
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10		
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10		
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5		
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10		
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5		
TAME	ug/kg	< 5	MCERTS	< 5	< 5		
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10		
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5		
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2		
Styrene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10		
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5		
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5		
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5		
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10		
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-02429	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 05/03/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
528439	H5	None Supplied	None Supplied	13.1	Brown sandy clay
528440	H6	None Supplied	None Supplied	13.9	Brown loamy sand with stones
528441	I5	None Supplied	None Supplied	7.6	Brown sandy clay with stones
528442	I6	None Supplied	None Supplied	11.9	Brown sandy clay with stones
528443	J5	None Supplied	None Supplied	7.6	Light brown sandy clay with stones
528444	J7	None Supplied	None Supplied	12	Brown loamy sand with stones
528445	J8	None Supplied	None Supplied	12.5	Brown loamy sand with stones and brick

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No:	21-02429
G & J Geoenvironmental Consultants Ltd	
Site Reference:	Middlemore Lane
Project / Job Ref:	GJ049
Order No:	None Supplied
Reporting Date:	05/03/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-02523

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: GJ049

Sample Receipt Date: 02/03/2021

Sample Scheduled Date: 02/03/2021

Report Issue Number: 1

Reporting Date: 08/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Tel : 01622 850410



Soil Analysis Certificate						
DETS Report No: 21-02523	Date Sampled	26/02/21	26/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	N5	N6			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: GJ049	Depth (m)	None Supplied	None Supplied			
Reporting Date: 08/03/2021	DETS Sample No	528824	528825			

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected			
pH	pH Units	N/a	MCERTS	8.7	9.0			
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1078	2287			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.11	0.23			
Sulphide	mg/kg	< 5	NONE	< 5	< 5			
Organic Matter	%	< 0.1	MCERTS	0.2	0.9			
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	< 0.1	0.5			
Arsenic (As)	mg/kg	< 2	MCERTS	7	5			
W/S Boron	mg/kg	< 1	NONE	< 1	< 1			
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	< 0.2			
Chromium (Cr)	mg/kg	< 2	MCERTS	12	9			
Copper (Cu)	mg/kg	< 4	MCERTS	19	42			
Lead (Pb)	mg/kg	< 3	MCERTS	21	43			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	13	11			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	43	64			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
EPH (C10 - C40)	mg/kg	< 6	MCERTS	< 6	1270			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Tel : 01622 850410



Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-02523	Date Sampled	26/02/21	26/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	N5	N6			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: GJ049	Depth (m)	None Supplied	None Supplied			
Reporting Date: 08/03/2021	DETS Sample No	528824	528825			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	0.17		
Phenanthrene	mg/kg	< 0.1	MCERTS	0.13	0.42		
Anthracene	mg/kg	< 0.1	MCERTS	0.14	0.20		
Fluoranthene	mg/kg	< 0.1	MCERTS	0.29	0.52		
Pyrene	mg/kg	< 0.1	MCERTS	0.26	0.48		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.54	0.66		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	0.26		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.36	0.52		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.12	0.16		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.25	0.36		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.48		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	0.30		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	2.1	4.5		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02523	Date Sampled	26/02/21	26/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	N5	N6			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: GJ049	Depth (m)	None Supplied	None Supplied			
Reporting Date: 08/03/2021	DETS Sample No	528824	528825			

Determinand	Unit	RL	Accreditation			
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	22	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	106	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	142	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	325	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	595	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	3	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	34	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	84	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	244	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	365	
Total >C5 - C35	mg/kg	< 42	NONE	< 42	961	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02523	Date Sampled	26/02/21	26/02/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	N5	N6			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: GJ049	Depth (m)	None Supplied	None Supplied			
Reporting Date: 08/03/2021	DETS Sample No	528824	528825			

Determinand	Unit	RL	Accreditation				
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-02523	Date Sampled	26/02/21				
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied				
Site Reference: Middlemore Lane	TP / BH No	N6				
Project / Job Ref: GJ049	Additional Refs	None Supplied				
Order No: GJ049	Depth (m)	None Supplied				
Reporting Date: 08/03/2021	DETS Sample No	528825				

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5			
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5			
Chloromethane	ug/kg	< 10	MCERTS	< 10			
Chloroethane	ug/kg	< 5	MCERTS	< 5			
Bromomethane	ug/kg	< 10	MCERTS	< 10			
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5			
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5			
MTBE	ug/kg	< 5	MCERTS	< 5			
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5			
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5			
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5			
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5			
Chloroform	ug/kg	< 5	MCERTS	< 5			
Bromochloromethane	ug/kg	< 5	MCERTS	< 5			
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5			
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10			
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5			
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5			
Benzene	ug/kg	< 2	MCERTS	< 2			
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5			
Trichloroethene	ug/kg	< 5	MCERTS	< 5			
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5			
Dibromomethane	ug/kg	< 5	MCERTS	< 5			
TAME	ug/kg	< 5	MCERTS	< 5			
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5			
Toluene	ug/kg	< 5	MCERTS	< 5			
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5			
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10			
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5			
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5			
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5			
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5			
Chlorobenzene	ug/kg	< 5	MCERTS	< 5			
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5			
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2			
m,p-Xylene	ug/kg	< 2	MCERTS	< 2			
o-Xylene	ug/kg	< 2	MCERTS	< 2			
Styrene	ug/kg	< 5	MCERTS	< 5			
Bromoform	ug/kg	< 10	MCERTS	< 10			
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5			
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5			
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5			
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5			
Bromobenzene	ug/kg	< 5	MCERTS	< 5			
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5			
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	12			
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5			
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5			
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	13			
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5			
p-Isopropyltoluene	ug/kg	< 5	MCERTS	8			
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5			
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5			
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5			
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5			
2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10			
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5			



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-02523	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: GJ049	
Reporting Date: 08/03/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
528824	N5	None Supplied	None Supplied	8	Light brown sandy clay with stones
528825	N6	None Supplied	None Supplied	8	Light brown sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-02523	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: GJ049	
Reporting Date: 08/03/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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DETS Report No: 21-02831

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 08/03/2021

Sample Scheduled Date: 08/03/2021

Report Issue Number: 1

Reporting Date: 15/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K5	L5	J6	K6	L6
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530082	530083	530084	530085	530086

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.8	7.9	7.6	8.6	7.9
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1916	570	2178	2396	1382
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.19	0.06	0.22	0.24	0.14
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	0.6	0.2	1.6	0.8	0.2
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.4	0.1	0.9	0.5	0.1
Arsenic (As)	mg/kg	< 2	MCERTS	6	3	7	7	5
W/S Boron	mg/kg	< 1	NONE	2	< 1	1.1	1.1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	18	4	13	11	7
Copper (Cu)	mg/kg	< 4	MCERTS	157	12	164	167	26
Lead (Pb)	mg/kg	< 3	MCERTS	21	7	27	27	12
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	13	4	10	14	8
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	295	22	296	226	41
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	10.8	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	229	< 6	374	12	65

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K11	L15	M15	L16	M16
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530087	530088	530089	530090	530091

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.4	7.7	7.8	7.7	7.4
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1730	951	417	637	248
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.17	0.10	0.04	0.06	0.02
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	2.6	0.7	0.4	0.1	0.2
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	1.5	0.4	0.2	< 0.1	0.1
Arsenic (As)	mg/kg	< 2	MCERTS	7	5	3	5	3
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	0.4	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	9	10	8	8	7
Copper (Cu)	mg/kg	< 4	MCERTS	48	1140	263	329	90
Lead (Pb)	mg/kg	< 3	MCERTS	28	71	34	36	18
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	16	12	8	9	7
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	103	868	152	163	103
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	110	599	651	18	347

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	H7	17	H8	18	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 15/03/2021	DETS Sample No	530092	530093	530094	530095	

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	
pH	pH Units	N/a	MCERTS	8.5	7.1	7.9	7.3	
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1729	3824	4308	6306	
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.17	0.38	0.43	0.63	
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	
Organic Matter	%	< 0.1	MCERTS	3.6	2.8	2.3	5	
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2.1	1.6	1.3	2.9	
Arsenic (As)	mg/kg	< 2	MCERTS	8	8	23	14	
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	1.2	1	
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.2	0.2	8.2	0.4	
Chromium (Cr)	mg/kg	< 2	MCERTS	11	11	20	12	
Copper (Cu)	mg/kg	< 4	MCERTS	66	173	2590	140	
Lead (Pb)	mg/kg	< 3	MCERTS	34	44	221	56	
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS	22	20	25	24	
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	
Zinc (Zn)	mg/kg	< 3	MCERTS	183	215	2880	237	
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	
EPH (C10 - C40)	mg/kg	< 6	MCERTS	61	84	45	56	

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K5	L5	J6	K6	L6
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530082	530083	530084	530085	530086

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K11	L15	M15	L16	M16
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530087	530088	530089	530090	530091

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	0.39	0.25	< 0.1	0.40
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.34
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.46	0.49	< 0.1	0.44
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.17
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.15
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.29
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.13
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.28
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	2.2



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	H7	I7	H8	I8	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 15/03/2021	DETS Sample No	530092	530093	530094	530095	

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	0.19	< 0.1	0.25
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	0.11	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.69	0.38	0.33	0.59
Anthracene	mg/kg	< 0.1	MCERTS	0.17	0.14	0.15	0.15
Fluoranthene	mg/kg	< 0.1	MCERTS	0.99	0.24	0.40	0.45
Pyrene	mg/kg	< 0.1	MCERTS	0.76	0.20	0.34	0.32
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.23	0.12	0.22	0.17
Chrysene	mg/kg	< 0.1	MCERTS	0.34	< 0.1	0.18	0.15
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.44	0.29	0.38	0.32
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.13	< 0.1	0.15	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	0.30	< 0.1	0.29	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	0.17	< 0.1	0.16	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	4.3	< 1.6	2.6	2.4



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K5	L5	J6	K6	L6
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530082	530083	530084	530085	530086

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	9	< 3	6	< 3	5
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	120	< 10	210	< 10	32
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	129	< 21	215	< 21	36
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	44	< 10	107	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	44	< 21	107	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	173	< 42	322	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K11	L15	M15	L16	M16
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530087	530088	530089	530090	530091

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	7	8	< 2	7
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	24	27	< 2	20
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	116	132	4	71
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	3	127	135	< 3	76
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	47	33	33	< 10	15
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	50	308	337	< 21	188
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	11	8	< 2	9
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	81	76	< 2	55
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	93	77	< 3	58
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	24	12	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	209	173	< 21	122
Total >C5 - C35	mg/kg	< 42	NONE	50	517	509	< 42	311



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H7	17	H8	18
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530092	530093	530094	530095

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	3	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	7	< 2	7
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	11	< 3	11
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K5	L5	J6	K6	L6
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530082	530083	530084	530085	530086

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	04/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K11	L15	M15	L16	M16
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 15/03/2021	DETS Sample No	530087	530088	530089	530090	530091

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	4	25	< 2	16
p & m-xylene	ug/kg	< 2	MCERTS	< 2	11	87	< 2	69
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21	04/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	H7	17	H8	18	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 15/03/2021	DETS Sample No	530092	530093	530094	530095	

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-02831	Date Sampled	04/03/21	04/03/21	04/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	L6	K11	M16		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 15/03/2021	DETS Sample No	530086	530087	530091		

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	16	
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	69	
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	35	
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	94	
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	127	
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	127	
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	60	
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	44	
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-02831
G & J Geoenvironmental Consultants Ltd
Site Reference: Middlemore Lane
Project / Job Ref: GJ049
Order No: None Supplied
Reporting Date: 15/03/2021



DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
530082	K5	None Supplied	None Supplied	9.1	Light brown sandy clay with stones
530083	L5	None Supplied	None Supplied	8.6	Light brown sandy clay
530084	J6	None Supplied	None Supplied	9.3	Brown sandy clay with stones and brick
530085	K6	None Supplied	None Supplied	9.9	Brown sandy clay with stones
530086	L6	None Supplied	None Supplied	8.2	Light brown sandy clay with stones
530087	K11	None Supplied	None Supplied	11.7	Grey loamy sand with stones
530088	L15	None Supplied	None Supplied	7.3	Light brown sandy clay with stones
530089	M15	None Supplied	None Supplied	10.2	Light brown sandy clay with stones
530090	L16	None Supplied	None Supplied	11	Light brown sandy clay with stones
530091	M16	None Supplied	None Supplied	9.5	Light brown sandy clay with stones
530092	H7	None Supplied	None Supplied	12.9	Brown loamy sand with concrete
530093	I7	None Supplied	None Supplied	11.3	Grey loamy sand with brick
530094	H8	None Supplied	None Supplied	7.9	Brown loamy sand with stones and brick
530095	I8	None Supplied	None Supplied	12.4	Grey sandy clay with brick

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-02831	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 15/03/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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t: 01622 850410

DETS Report No: 21-03357

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 17/03/2021

Sample Scheduled Date: 17/03/2021

Report Issue Number: 1

Reporting Date: 23/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 21-03357	Date Sampled	12/03/21	12/03/21	12/03/21	12/03/21	12/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H9	I9	J9	G10	H10
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 23/03/2021	DETS Sample No	532054	532055	532056	532057	532058

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE		Chrysotile present in microscopic loose fibrous asbestos debris			
Asbestos Type ^(S)	PLM Result	N/a	ISO17025		Chrysotile			
pH	pH Units	N/a	MCERTS	7.2	7.7	10.0	8.0	7.7
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1527	3017	1048	2587	3133
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.15	0.30	0.10	0.26	0.31
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	6.5	3.7	3.1	3.2	5.8
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	3.8	2.2	1.8	1.9	3.4
Arsenic (As)	mg/kg	< 2	MCERTS	9	8	9	9	14
W/S Boron	mg/kg	< 1	NONE	< 1	1.2	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.3	2	3.6	0.7	0.8
Chromium (Cr)	mg/kg	< 2	MCERTS	15	12	13	14	12
Copper (Cu)	mg/kg	< 4	MCERTS	59	380	209	125	573
Lead (Pb)	mg/kg	< 3	MCERTS	34	61	38	48	193
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	30	25	16	21	30
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	179	1100	962	370	996
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	130	212	147	445	1200

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-03357	Date Sampled	12/03/21	12/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	I10	J10			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 23/03/2021	DETS Sample No	532059	532060			

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected			
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	7.7	7.0			
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	2508	389			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.25	0.04			
Sulphide	mg/kg	< 5	NONE	< 5	< 5			
Organic Matter	%	< 0.1	MCERTS	4.7	1.4			
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2.7	0.8			
Arsenic (As)	mg/kg	< 2	MCERTS	8	6			
W/S Boron	mg/kg	< 1	NONE	1.1	< 1			
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.4	0.7			
Chromium (Cr)	mg/kg	< 2	MCERTS	12	11			
Copper (Cu)	mg/kg	< 4	MCERTS	52	81			
Lead (Pb)	mg/kg	< 3	MCERTS	30	23			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	24	7			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	168	532			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
EPH (C10 - C40)	mg/kg	< 6	MCERTS	89	16			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-03357	Date Sampled	12/03/21	12/03/21	12/03/21	12/03/21	12/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H9	I9	J9	G10	H10
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 23/03/2021	DETS Sample No	532054	532055	532056	532057	532058

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	0.30	< 0.1	< 0.1	< 0.1	0.32
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.47	0.28	0.16	0.29	0.99
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.15	0.33	0.19	0.25	0.69
Pyrene	mg/kg	< 0.1	MCERTS	0.17	0.28	0.18	0.23	0.53
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.22
Chrysene	mg/kg	< 0.1	MCERTS	0.13	0.15	< 0.1	0.14	0.37
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.17	< 0.1	< 0.1	0.38
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.16
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.12	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	3.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-03357	Date Sampled	12/03/21	12/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	I10	J10			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 23/03/2021	DETS Sample No	532059	532060			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	0.18	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	0.38	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	0.21	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	0.18	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	0.15	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03357	Date Sampled	12/03/21	12/03/21	12/03/21	12/03/21	12/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H9	I9	J9	G10	H10
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 23/03/2021	DETS Sample No	532054	532055	532056	532057	532058

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	0.27	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	4
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	10
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	7	10	26
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	62	34	214	777
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	62	41	224	818
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	3	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	11	2	< 2	4	9
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	14	7	< 3	8	24
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	44	< 10	60	193
Aromatic (C5 - C35)	mg/kg	< 21	NONE	28	54	< 21	72	226
Total >C5 - C35	mg/kg	< 42	NONE	< 42	115	< 42	296	1044



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03357	Date Sampled	12/03/21	12/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	I10	J10			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 23/03/2021	DETS Sample No	532059	532060			

Determinand	Unit	RL	Accreditation			
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	6	< 2	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	9	< 3	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03357	Date Sampled	12/03/21	12/03/21	12/03/21	12/03/21	12/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	H9	I9	J9	G10	H10
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 23/03/2021	DETS Sample No	532054	532055	532056	532057	532058

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03357	Date Sampled	12/03/21	12/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	I10	J10			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 23/03/2021	DETS Sample No	532059	532060			

Determinand	Unit	RL	Accreditation				
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-03357	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 23/03/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
532054	H9	None Supplied	None Supplied	13.7	Black loamy sand with brick
532055	I9	None Supplied	None Supplied	13.9	Black loamy sand with brick and concrete
532056	J9	None Supplied	None Supplied	10.5	Brown sandy clay with stones
532057	G10	None Supplied	None Supplied	14.9	Brown loamy sand with stones and brick
532058	H10	None Supplied	None Supplied	12.7	Black sandy clay
532059	I10	None Supplied	None Supplied	13.1	Brown sandy clay
532060	J10	None Supplied	None Supplied	14.3	Light brown sandy clay

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-03357

G & J Geoenvironmental Consultants Ltd

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Reporting Date: 23/03/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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DETS Report No: 21-03631

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 22/03/2021

Sample Scheduled Date: 22/03/2021

Report Issue Number: 1

Reporting Date: 29/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 21-03631	Date Sampled	18/03/21	18/03/21	18/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	G9	K9	L9		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 29/03/2021	DETS Sample No	533008	533009	533010		

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected		
pH	pH Units	N/a	MCERTS	8.0	9.3	8.4		
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2		
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1385	910	865		
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.14	0.09	0.09		
Sulphide	mg/kg	< 5	NONE	18	< 5	< 5		
Organic Matter	%	< 0.1	MCERTS	4.3	0.4	0.9		
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2.5	0.2	0.5		
Arsenic (As)	mg/kg	< 2	MCERTS	9	6	6		
W/S Boron	mg/kg	< 1	NONE	1.2	< 1	< 1		
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.6	0.4	< 0.2		
Chromium (Cr)	mg/kg	< 2	MCERTS	13	11	14		
Copper (Cu)	mg/kg	< 4	MCERTS	221	248	204		
Lead (Pb)	mg/kg	< 3	MCERTS	112	43	22		
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
Nickel (Ni)	mg/kg	< 3	MCERTS	16	9	8		
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3		
Zinc (Zn)	mg/kg	< 3	MCERTS	434	792	263		
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2		
EPH (C10 - C40)	mg/kg	< 6	MCERTS	468	45	408		

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-03631	Date Sampled	18/03/21	18/03/21	18/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	G9	K9	L9		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 29/03/2021	DETS Sample No	533008	533009	533010		

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	MCERTS	0.44	< 0.1	< 0.1	
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	< 0.1	MCERTS	0.40	< 0.1	< 0.1	
Pyrene	mg/kg	< 0.1	MCERTS	0.38	< 0.1	0.26	
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.14	< 0.1	< 0.1	
Chrysene	mg/kg	< 0.1	MCERTS	0.18	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.19	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	< 0.1	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	2	< 1.6	< 1.6	



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03631	Date Sampled	18/03/21	18/03/21	18/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	G9	K9	L9		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 29/03/2021	DETS Sample No	533008	533009	533010		

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	6	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	9	< 2	8	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	29	< 3	59	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	50	< 3	65	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	84	< 10	44	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	178	< 21	175	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	11	< 2	10	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	33	< 3	22	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	38	< 10	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	82	< 21	32	
Total >C5 - C35	mg/kg	< 42	NONE	260	< 42	208	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03631	Date Sampled	18/03/21	18/03/21	18/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	G9	K9	L9		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 29/03/2021	DETS Sample No	533008	533009	533010		

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-03631	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 29/03/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
533008	G9	None Supplied	None Supplied	9.8	Black loamy sand with brick
533009	K9	None Supplied	None Supplied	10	Light brown sandy clay with stones
533010	L9	None Supplied	None Supplied	10.2	Light brown sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-03631

G & J Geoenvironmental Consultants Ltd

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Reporting Date: 29/03/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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DETS Report No: 21-03857

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 24/03/2021

Sample Scheduled Date: 25/03/2021

Report Issue Number: 1

Reporting Date: 01/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 21-03857	Date Sampled	23/03/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	N7	N8	N9	N10	N11
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533846	533847	533848	533849	533850

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	8.1	7.9	7.6	7.5	7.2
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	427	1332	276	< 200	< 200
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.04	0.13	0.03	< 0.02	< 0.02
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	< 0.1	0.9	1.1	< 0.1	< 0.1
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	< 0.1	0.5	0.6	< 0.1	< 0.1
Arsenic (As)	mg/kg	< 2	MCERTS	8	8	5	7	4
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	0.7	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	14	14	12	11	9
Copper (Cu)	mg/kg	< 4	MCERTS	40	1360	123	17	13
Lead (Pb)	mg/kg	< 3	MCERTS	17	98	18	10	9
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	17	14	10	5	7
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	68	1120	112	26	29
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	< 6	< 6	14	< 6	< 6

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	M5	M6	M7	M8	M9
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533851	533852	533853	533854	533855

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	8.0	7.5	6.0	7.6	8.0
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	220	1183	3658	4601	1344
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.02	0.12	0.37	0.46	0.13
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	0.2	< 0.1	4.6	2.4	0.9
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.1	< 0.1	2.7	1.4	0.5
Arsenic (As)	mg/kg	< 2	MCERTS	3	12	8	11	9
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	1.1
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	0.2	0.3	1	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	4	20	18	16	25
Copper (Cu)	mg/kg	< 4	MCERTS	111	62	370	3510	188
Lead (Pb)	mg/kg	< 3	MCERTS	17	25	56	340	107
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	6	25	37	25	27
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	143	119	378	2930	313
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	28	< 6	37	134	325

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	M10	M11	M12	M13	M14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533856	533857	533858	533859	533860

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	7.0	7.3	7.3	7.5	7.6
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	555	< 200	2161	856	222
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.06	< 0.02	0.22	0.09	0.02
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	0.5	0.2	1.1	0.3	< 0.1
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.3	0.1	0.7	0.1	< 0.1
Arsenic (As)	mg/kg	< 2	MCERTS	6	< 2	5	3	2
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	12	10	11	6	6
Copper (Cu)	mg/kg	< 4	MCERTS	21	12	33	33	12
Lead (Pb)	mg/kg	< 3	MCERTS	13	7	76	26	8
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	4	5	10	7	6
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	124	15	70	60	29
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	< 6	< 6	320	481	81

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	G5	G6	G7	G8	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 01/04/2021	DETS Sample No	533861	533862	533863	533864	

Determinand	Unit	RL	Accreditation	Detected	Not Detected	Not Detected	Not Detected
Asbestos Screen ^(S)	N/a	N/a	ISO17025				
Sample Matrix ^(S)	Material Type	N/a	NONE	Chrysotile present in microscopic Cement debris			
Asbestos Type ^(S)	PLM Result	N/a	ISO17025	Chrysotile			
pH	pH Units	N/a	MCERTS	7.8	9.5	6.8	7.1
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1203	1849	1339	636
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.12	0.18	0.13	0.06
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	1.5	4.1	3.1	1.7
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.9	2.4	1.8	1
Arsenic (As)	mg/kg	< 2	MCERTS	26	9	7	6
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	46	2.8	1.3	0.4
Chromium (Cr)	mg/kg	< 2	MCERTS	58	14	12	11
Copper (Cu)	mg/kg	< 4	MCERTS	19600	860	616	66
Lead (Pb)	mg/kg	< 3	MCERTS	1790	105	68	21
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	101	26	19	14
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	22300	1580	1020	161
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	112	63	89	15

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-03857	Date Sampled	23/03/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	N7	N8	N9	N10	N11
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533846	533847	533848	533849	533850

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.29	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.28	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.13	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.15	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.11	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	M5	M6	M7	M8	M9
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533851	533852	533853	533854	533855

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.18	0.55
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.13
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.31	1.02
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.26	0.99
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.47
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.13	0.41
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.15	0.66
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.20
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.51
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.29
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.26
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	5.5



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	M10	M11	M12	M13	M14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533856	533857	533858	533859	533860

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	G5	G6	G7	G8	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 01/04/2021	DETS Sample No	533861	533862	533863	533864	

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.26	< 0.1	< 0.1	
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.28	< 0.1	< 0.1	
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.24	< 0.1	< 0.1	
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	0.15	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03857	Date Sampled	23/03/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	N7	N8	N9	N10	N11
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533846	533847	533848	533849	533850

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	M5	M6	M7	M8	M9
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533851	533852	533853	533854	533855

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	66
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	66
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	6
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	26	81
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	26	87
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	153



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	M10	M11	M12	M13	M14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533856	533857	533858	533859	533860

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	5	7	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	26	84	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	91	172	21
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	36	22	27
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	75	89	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	232	374	48
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	7	8	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	11	21	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	30	72	3
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	21	7	11
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	13	23	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	83	132	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	316	506	62



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	G5	G6	G7	G8
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533861	533862	533863	533864

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	6	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	25	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	25	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	25	< 21	31	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	3	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	20	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	23	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	54	< 42



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03857	Date Sampled	23/03/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	N7	N8	N9	N10	N11
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533846	533847	533848	533849	533850

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	M5	M6	M7	M8	M9
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533851	533852	533853	533854	533855

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	27/01/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	M10	M11	M12	M13	M14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 01/04/2021	DETS Sample No	533856	533857	533858	533859	533860

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	G5	G6	G7	G8	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 01/04/2021	DETS Sample No	533861	533862	533863	533864	

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21	27/01/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	M9	M13	M14	G8	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 01/04/2021	DETS Sample No	533855	533859	533860	533864	

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	6	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-03857	Date Sampled	27/01/21	27/01/21	27/01/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	N11	M5	M14		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 01/04/2021	DETS Sample No	533850	533851	533860		

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-03857
G & J Geoenvironmental Consultants Ltd
Site Reference: Middlemore Lane
Project / Job Ref: GJ049
Order No: None Supplied
Reporting Date: 01/04/2021



DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
533846	N7	None Supplied	None Supplied	11	Red sandy clay with stones
\$ 533847	N8	None Supplied	None Supplied	7.8	Light brown sandy clay with stones
\$ 533848	N9	None Supplied	None Supplied	6.2	Light brown sandy clay with stones
\$ 533849	N10	None Supplied	None Supplied	12.7	Light brown sandy clay
\$ 533850	N11	None Supplied	None Supplied	7.1	Light brown sandy clay with stones
\$ 533851	M5	None Supplied	None Supplied	6.4	Red sandy clay with stones
\$ 533852	M6	None Supplied	None Supplied	10	Light brown sandy clay with stones
\$ 533853	M7	None Supplied	None Supplied	15.7	Grey sandy clay
\$ 533854	M8	None Supplied	None Supplied	12.3	Brown sandy clay with brick and concrete
\$ 533855	M9	None Supplied	None Supplied	14.1	Light brown sandy clay with stones
\$ 533856	M10	None Supplied	None Supplied	11.6	Light brown sandy clay
\$ 533857	M11	None Supplied	None Supplied	9.6	Light grey sandy clay
\$ 533858	M12	None Supplied	None Supplied	5.5	Brown sandy clay with stones
\$ 533859	M13	None Supplied	None Supplied	7.9	Light brown sandy clay with stones
\$ 533860	M14	None Supplied	None Supplied	5	Light brown sandy clay with stones
\$ 533861	G5	None Supplied	None Supplied	10.5	Brown sandy gravel with brick and concrete
\$ 533862	G6	None Supplied	None Supplied	8	Grey sandy clay with stones
\$ 533863	G7	None Supplied	None Supplied	13.7	Grey sandy clay
\$ 533864	G8	None Supplied	None Supplied	11.7	Brown sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}

\$ samples exceeded recommended holding times



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-03857

G & J Geoenvironmental Consultants Ltd

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Reporting Date: 01/04/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



Chris Hepworth
G & J Geoenvironmental Consultants Ltd
35-37 High Street
Barrow-upon-Soar
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Leicestershire
LE12 8PY

DETS Ltd
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Kent
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t: 01622 850410

DETS Report No: 21-04100

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 29/03/2021

Sample Scheduled Date: 30/03/2021

Report Issue Number: 1

Reporting Date: 08/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate						
DETS Report No: 21-04100	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	E7	F7	F8	F9	K10
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/04/2021	DETS Sample No	534847	534848	534849	534850	534851

Determinand	Unit	RL	Accreditation	Detected	Detected	Detected	Not Detected	Not Detected
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Detected	Detected	Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE	Chrysotile present in Microscopic Cement debris & Bundles	Bundle of Chrysotile fibres	Bundles of Chrysotile fibres		
Asbestos Type ^(S)	PLM Result	N/a	ISO17025	Chrysotile	Chrysotile	Chrysotile		
pH	pH Units	N/a	MCERTS	7.9	7.6	9.7	9.8	7.8
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	3304	1814	1652	2441	3703
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.33	0.18	0.17	0.24	0.37
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	4.1	2	2.3	2.5	5.7
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	2.4	1.2	1.4	1.4	3.3
Arsenic (As)	mg/kg	< 2	MCERTS	33	18	12	21	10
W/S Boron	mg/kg	< 1	NONE	< 1	1	< 1	1.4	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	135	10	2.3	10.4	1
Chromium (Cr)	mg/kg	< 2	MCERTS	1030	222	35	193	21
Copper (Cu)	mg/kg	< 4	MCERTS	26100	4360	1300	10800	564
Lead (Pb)	mg/kg	< 3	MCERTS	2960	660	536	668	68
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	767	216	39	183	22
Selenium (Se)	mg/kg	< 2	MCERTS	2.6	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	32200	5220	1850	11200	1350
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	1270	277	14	278	5710

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-04100	Date Sampled	25/03/21	25/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	L10	L11			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 08/04/2021	DETS Sample No	534852	534853			

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected			
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	8.8	7.8			
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	814	706			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.08	0.07			
Sulphide	mg/kg	< 5	NONE	< 5	< 5			
Organic Matter	%	< 0.1	MCERTS	0.8	3.9			
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.5	2.3			
Arsenic (As)	mg/kg	< 2	MCERTS	7	9			
W/S Boron	mg/kg	< 1	NONE	< 1	1.1			
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.5	< 0.2			
Chromium (Cr)	mg/kg	< 2	MCERTS	12	26			
Copper (Cu)	mg/kg	< 4	MCERTS	128	70			
Lead (Pb)	mg/kg	< 3	MCERTS	24	25			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	11	53			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	306	157			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
EPH (C10 - C40)	mg/kg	< 6	MCERTS	45	48			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-04100	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	E7	F7	F8	F9	K10
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/04/2021	DETS Sample No	534847	534848	534849	534850	534851

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.12	0.15
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.15	0.16
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	0.16	0.14
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-04100	Date Sampled	25/03/21	25/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	L10	L11			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 08/04/2021	DETS Sample No	534852	534853			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.13		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04100	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	E7	F7	F8	F9	K10
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/04/2021	DETS Sample No	534847	534848	534849	534850	534851

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	11	< 3	< 3	< 3	8
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	59	5	< 3	17	135
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	353	89	< 10	80	3307
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	423	94	< 21	97	3450
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	9	< 3	< 3	10	35
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	113	45	< 10	249	476
Aromatic (C5 - C35)	mg/kg	< 21	NONE	122	45	< 21	259	514
Total >C5 - C35	mg/kg	< 42	NONE	544	139	< 42	356	3964



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04100	Date Sampled	25/03/21	25/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	L10	L11			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 08/04/2021	DETS Sample No	534852	534853			

Determinand	Unit	RL	Accreditation			
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04100	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	E7	F7	F8	F9	K10
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/04/2021	DETS Sample No	534847	534848	534849	534850	534851

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	31	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	49	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04100	Date Sampled	25/03/21	25/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	L10	L11			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 08/04/2021	DETS Sample No	534852	534853			

Determinand	Unit	RL	Accreditation				
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04100	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 08/04/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
534847	E7	None Supplied	None Supplied	9.6	Black loamy sand with brick and concrete
534848	F7	None Supplied	None Supplied	10.1	Brown sandy gravel with brick and concrete
534849	F8	None Supplied	None Supplied	12.1	Brown sandy gravel with brick and concrete
534850	F9	None Supplied	None Supplied	10.5	Brown sandy gravel with stones and concrete
534851	K10	None Supplied	None Supplied	6.7	Brown sandy gravel with brick and concrete
534852	L10	None Supplied	None Supplied	10	Light brown sandy gravel with stones and concrete
534853	L11	None Supplied	None Supplied	14.4	Grey loamy sand with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-04100

G & J Geoenvironmental Consultants Ltd

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Reporting Date: 08/04/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



Chris Hepworth
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DETS Ltd
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ME17 2JN
t: 01622 850410

DETS Report No: 21-04116

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 30/03/2021

Sample Scheduled Date: 30/03/2021

Report Issue Number: 1

Reporting Date: 08/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



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Soil Analysis Certificate						
DETS Report No: 21-04116	Date Sampled	26/03/21	26/03/21	26/03/21	26/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	K3	K4	L3	L4	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 08/04/2021	DETS Sample No	534932	534933	534934	534935	

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.4	6.9	7.9	6.9
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	277	700	1281	279
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.03	0.07	0.13	0.03
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	0.6	1.6	1.3	0.4
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	0.3	0.9	0.7	0.2
Arsenic (As)	mg/kg	< 2	MCERTS	8	15	74	7
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	< 1	< 1
Cadmium (Cd)	mg/kg	< 0.2	NONE	0.5	0.8	2.5	< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	10	19	26	8
Copper (Cu)	mg/kg	< 4	MCERTS	107	378	550	168
Lead (Pb)	mg/kg	< 3	MCERTS	25	66	185	33
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	11	17	40	7
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	142	370	615	109
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	1740	25	30	59

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-04116	Date Sampled	26/03/21	26/03/21	26/03/21	26/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	K3	K4	L3	L4	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 08/04/2021	DETS Sample No	534932	534933	534934	534935	

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	1.24	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	0.13	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	3.55	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	3.13	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	51.40	< 0.1	0.26	0.52
Anthracene	mg/kg	< 0.1	MCERTS	13.30	< 0.1	< 0.1	0.24
Fluoranthene	mg/kg	< 0.1	MCERTS	51.40	0.22	0.58	2.63
Pyrene	mg/kg	< 0.1	MCERTS	42.40	0.21	0.52	2.28
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	15.80	0.12	0.21	0.93
Chrysene	mg/kg	< 0.1	MCERTS	13.90	0.16	0.22	0.83
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	13.20	0.38	0.47	1.12
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	6.18	0.18	0.20	0.34
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	10.70	0.28	0.42	0.83
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	5.96	0.21	0.34	0.47
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	1.08	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	4.56	0.19	0.36	0.38
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	238	2	3.6	10.6



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04116	Date Sampled	26/03/21	26/03/21	26/03/21	26/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K3	K4	L3	L4
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 08/04/2021	DETS Sample No	534932	534933	534934	534935

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	18	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	128	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	146	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	292	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	37	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	361	< 3	< 3	11
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	433	< 10	< 10	15
Aromatic (C5 - C35)	mg/kg	< 21	NONE	831	< 21	< 21	26
Total >C5 - C35	mg/kg	< 42	NONE	1123	< 42	< 42	< 42



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04116	Date Sampled	26/03/21	26/03/21	26/03/21	26/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	K3	K4	L3	L4	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 08/04/2021	DETS Sample No	534932	534933	534934	534935	

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)

DETS Report No: 21-04116	Date Sampled	26/03/21				
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied				
Site Reference: Middlemore Lane	TP / BH No	K4				
Project / Job Ref: GJ049	Additional Refs	None Supplied				
Order No: None Supplied	Depth (m)	None Supplied				
Reporting Date: 08/04/2021	DETS Sample No	534933				

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5			
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5			
Chloromethane	ug/kg	< 10	MCERTS	< 10			
Chloroethane	ug/kg	< 5	MCERTS	< 5			
Bromomethane	ug/kg	< 10	MCERTS	< 10			
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5			
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5			
MTBE	ug/kg	< 5	MCERTS	< 5			
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5			
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5			
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5			
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5			
Chloroform	ug/kg	< 5	MCERTS	< 5			
Bromochloromethane	ug/kg	< 5	MCERTS	< 5			
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5			
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10			
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5			
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5			
Benzene	ug/kg	< 2	MCERTS	< 2			
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5			
Trichloroethene	ug/kg	< 5	MCERTS	< 5			
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5			
Dibromomethane	ug/kg	< 5	MCERTS	< 5			
TAME	ug/kg	< 5	MCERTS	< 5			
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5			
Toluene	ug/kg	< 5	MCERTS	< 5			
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5			
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10			
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5			
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5			
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5			
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5			
Chlorobenzene	ug/kg	< 5	MCERTS	< 5			
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5			
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2			
m,p-Xylene	ug/kg	< 2	MCERTS	< 2			
o-Xylene	ug/kg	< 2	MCERTS	< 2			
Styrene	ug/kg	< 5	MCERTS	< 5			
Bromoform	ug/kg	< 10	MCERTS	< 10			
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5			
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5			
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5			
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5			
Bromobenzene	ug/kg	< 5	MCERTS	< 5			
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5			
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5			
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5			
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5			
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5			
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5			
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5			
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5			
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5			
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5			
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5			
2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10			
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5			



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04116	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 08/04/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
534932	K3	None Supplied	None Supplied	8.6	Brown sandy clay with stones and concrete
534933	K4	None Supplied	None Supplied	10.5	Brown loamy sand with stones and concrete
534934	L3	None Supplied	None Supplied	9	Brown sandy gravel with stones and brick
534935	L4	None Supplied	None Supplied	7.9	Brown sandy gravel with stones and brick

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No:	21-04116
G & J Geoenvironmental Consultants Ltd	
Site Reference:	Middlemore Lane
Project / Job Ref:	GJ049
Order No:	None Supplied
Reporting Date:	08/04/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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DETS Report No: 21-04203

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 31/03/2021

Sample Scheduled Date: 31/03/2021

Report Issue Number: 1

Reporting Date: 09/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



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Soil Analysis Certificate						
DETS Report No: 21-04203	Date Sampled	30/03/21	30/03/21	30/03/21	30/03/21	30/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K7	K8	L7	L8	N14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 09/04/2021	DETS Sample No	535194	535195	535196	535197	535198

Determinand	Unit	RL	Accreditation					
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected
Sample Matrix ^(S)	Material Type	N/a	NONE					
Asbestos Type ^(S)	PLM Result	N/a	ISO17025					
pH	pH Units	N/a	MCERTS	6.2	5.2	4.9	7.7	8.4
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	725	3939	4435	12260	2528
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.07	0.39	0.44	1.23	0.25
Sulphide	mg/kg	< 5	NONE	< 5	< 5	< 5	< 5	< 5
Organic Matter	%	< 0.1	MCERTS	3.2	5.6	6	4.3	2.8
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	1.8	3.2	3.5	2.5	1.6
Arsenic (As)	mg/kg	< 2	MCERTS	4	14	10	18	12
W/S Boron	mg/kg	< 1	NONE	< 1	1.2	1.7	< 1	1.2
Cadmium (Cd)	mg/kg	< 0.2	NONE	< 0.2	0.3	0.5	1.4	1.1
Chromium (Cr)	mg/kg	< 2	MCERTS	14	16	13	19	37
Copper (Cu)	mg/kg	< 4	MCERTS	10	76	73	7350	5480
Lead (Pb)	mg/kg	< 3	MCERTS	7	49	43	476	335
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	9	37	27	47	35
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	< 3	< 3	< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	19	170	234	4720	4440
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	< 2	< 2	< 2
EPH (C10 - C40)	mg/kg	< 6	MCERTS	< 6	78	134	155	472

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate						
DETS Report No: 21-04203	Date Sampled	30/03/21	30/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	N15	N16			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 09/04/2021	DETS Sample No	535199	535200			

Determinand	Unit	RL	Accreditation	Detected	Not Detected			
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Chrysotile present as fibre bundles				
Sample Matrix ^(S)	Material Type	N/a	NONE	Chrysotile				
Asbestos Type ^(S)	PLM Result	N/a	ISO17025	Chrysotile				
pH	pH Units	N/a	MCERTS	8.0	7.6			
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	2919	223			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.29	0.02			
Sulphide	mg/kg	< 5	NONE	< 5	< 5			
Organic Matter	%	< 0.1	MCERTS	5.4	4			
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	3.1	2.3			
Arsenic (As)	mg/kg	< 2	MCERTS	14	4			
W/S Boron	mg/kg	< 1	NONE	1.4	< 1			
Cadmium (Cd)	mg/kg	< 0.2	NONE	5.6	< 0.2			
Chromium (Cr)	mg/kg	< 2	MCERTS	41	11			
Copper (Cu)	mg/kg	< 4	MCERTS	10600	173			
Lead (Pb)	mg/kg	< 3	MCERTS	750	23			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	52	5			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	14600	260			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2			
EPH (C10 - C40)	mg/kg	< 6	MCERTS	1550	< 6			

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-04203	Date Sampled	30/03/21	30/03/21	30/03/21	30/03/21	30/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K7	K8	L7	L8	N14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 09/04/2021	DETS Sample No	535194	535195	535196	535197	535198

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	0.14	0.26	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.11
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.14
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.54	0.71	0.22	1.22
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.37
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.21	0.22	0.11	5.04
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.19	0.23	< 0.1	5.09
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	3.31
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	2.79
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.14	< 0.1	< 0.1	4.88
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	1.50
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	4.05
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	1.96
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	0.48
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	1.86
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	< 1.6	32.8



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-04203	Date Sampled	30/03/21	30/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	N15	N16			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 09/04/2021	DETS Sample No	535199	535200			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	0.14	< 0.1		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	0.40	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	0.37	< 0.1		
Phenanthrene	mg/kg	< 0.1	MCERTS	5.37	< 0.1		
Anthracene	mg/kg	< 0.1	MCERTS	1.45	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	17.10	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	16.30	< 0.1		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	8.53	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	7.44	< 0.1		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	9.33	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	4.31	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	7.45	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	3.69	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	0.85	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	3.07	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	85.8	< 1.6		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04203	Date Sampled	30/03/21	30/03/21	30/03/21	30/03/21	30/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K7	K8	L7	L8	N14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 09/04/2021	DETS Sample No	535194	535195	535196	535197	535198

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	11
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	11	26
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	35	137
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	46	174
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	3	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	8	15	< 2	7
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	13	20	< 3	37
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	151
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	38	< 21	196
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	46	369



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04203	Date Sampled	30/03/21	30/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	N15	N16			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 09/04/2021	DETS Sample No	535199	535200			

Determinand	Unit	RL	Accreditation			
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	5	< 2	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	40	< 3	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	120	< 3	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	566	< 10	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	731	< 21	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	12	< 2	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	98	< 3	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	309	< 10	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	419	< 21	
Total >C5 - C35	mg/kg	< 42	NONE	1150	< 42	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04203	Date Sampled	30/03/21	30/03/21	30/03/21	30/03/21	30/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	K7	K8	L7	L8	N14
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 09/04/2021	DETS Sample No	535194	535195	535196	535197	535198

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04203	Date Sampled	30/03/21	30/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	N15	N16			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 09/04/2021	DETS Sample No	535199	535200			

Determinand	Unit	RL	Accreditation				
Benzene	ug/kg	< 2	MCERTS	7	< 2		
Toluene	ug/kg	< 5	MCERTS	10	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04203	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 09/04/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
535194	K7	None Supplied	None Supplied	7.4	Light brown sandy gravel with stones
535195	K8	None Supplied	None Supplied	11.5	Black loamy sand with stones
535196	L7	None Supplied	None Supplied	12.1	Black loamy sand with stones
535197	L8	None Supplied	None Supplied	12.4	Brown sandy gravel with stones and concrete
535198	N14	None Supplied	None Supplied	12.8	Brown sandy clay with stones
535199	N15	None Supplied	None Supplied	9.8	Brown sandy clay with stones
535200	N16	None Supplied	None Supplied	1.8	Light grey sandy clay

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-04203

G & J Geoenvironmental Consultants Ltd

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Reporting Date: 09/04/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

C2 – Hotspot Validation Samples

Highest	RT	GAC
1	1	1
2	2	2
3	3	3
4	4	4
5	5	5
6	6	6
7	7	7
8	8	8
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[illegible]



Chris Hepworth
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DETS Ltd
Unit 1
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Lenham Heath
Kent
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t: 01622 850410

DETS Report No: 21-02564

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: GJ049

Sample Receipt Date: 03/03/2021

Sample Scheduled Date: 03/03/2021

Report Issue Number: 1

Reporting Date: 09/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02564	Date Sampled	01/03/21	01/03/21	01/03/21	01/03/21	01/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS1 Base 1	HS1 Base 2	HS1 NF1	HS1 NF2	HS1 SF1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: GJ049	Depth (m)	4.00	3.90	2.60	2.80	2.60
Reporting Date: 09/03/2021	DETS Sample No	529071	529072	529073	529074	529075

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-02564	Date Sampled	01/03/21	01/03/21	01/03/21	01/03/21	01/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS1 SF2	HS1 EF1	HS1 EF2	HS1 WF1	HS1 WF2
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: GJ049	Depth (m)	3.20	2.00	2.00	1.80	2.20
Reporting Date: 09/03/2021	DETS Sample No	529076	529077	529078	529079	529080

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02564	Date Sampled	01/03/21	01/03/21	01/03/21	01/03/21	01/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS1 Base 1	HS1 Base 2	HS1 NF1	HS1 NF2	HS1 SF1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: GJ049	Depth (m)	4.00	3.90	2.60	2.80	2.60
Reporting Date: 09/03/2021	DETS Sample No	529071	529072	529073	529074	529075

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-02564	Date Sampled	01/03/21	01/03/21	01/03/21	01/03/21	01/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS1 SF2	HS1 EF1	HS1 EF2	HS1 WF1	HS1 WF2
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: GJ049	Depth (m)	3.20	2.00	2.00	1.80	2.20
Reporting Date: 09/03/2021	DETS Sample No	529076	529077	529078	529079	529080

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-02564	Date Sampled	01/03/21	01/03/21	01/03/21	01/03/21	01/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS1 Base 1	HS1 Base 2	HS1 NF1	HS1 NF2	HS1 SF1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: GJ049	Depth (m)	4.00	3.90	2.60	2.80	2.60
Reporting Date: 09/03/2021	DETS Sample No	529071	529072	529073	529074	529075

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-02564	Date Sampled	01/03/21	01/03/21	01/03/21	01/03/21	01/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS1 SF2	HS1 EF1	HS1 EF2	HS1 WF1	HS1 WF2
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: GJ049	Depth (m)	3.20	2.00	2.00	1.80	2.20
Reporting Date: 09/03/2021	DETS Sample No	529076	529077	529078	529079	529080

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-02564	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: GJ049	
Reporting Date: 09/03/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
529071	HS1 Base 1	None Supplied	4.00	9.5	Light brown sandy clay with stones
529072	HS1 Base 2	None Supplied	3.90	9.6	Light brown sandy clay with stones
529073	HS1 NF1	None Supplied	2.60	10.6	Light brown sandy clay with stones
529074	HS1 NF2	None Supplied	2.80	13.6	Light brown sandy clay with stones
529075	HS1 SF1	None Supplied	2.60	8.9	Light brown sandy clay with stones
529076	HS1 SF2	None Supplied	3.20	10.8	Light brown sandy clay with stones
529077	HS1 EF1	None Supplied	2.00	15.1	Light brown sandy clay
529078	HS1 EF2	None Supplied	2.00	9.2	Light brown sandy clay with stones
529079	HS1 WF1	None Supplied	1.80	16.6	Light brown sandy clay
529080	HS1 WF2	None Supplied	2.20	19.5	Light brown sandy clay

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-02564	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: GJ049	
Reporting Date: 09/03/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



Chris Hepworth
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Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-03858

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 24/03/2021

Sample Scheduled Date: 25/03/2021

Report Issue Number: 1

Reporting Date: 31/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03858	Date Sampled	22/03/21	22/03/21	22/03/21	22/03/21	22/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS2 - 1	HS2 - 2	HS2 - 3	HS2 - 4	HS2 - 5
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.50 - 1.50	0.10 - 1.00	1.00 - 1.50	0.10 - 1.00
Reporting Date: 31/03/2021	DETS Sample No	533865	533866	533867	533868	533869

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	1.78	14	0.06	< 0.05	5.64
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	22	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	39	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03858	Date Sampled	22/03/21	22/03/21	22/03/21	22/03/21	22/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS2 - 1	HS2 - 2	HS2 - 3	HS2 - 4	HS2 - 5
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.50 - 1.50	0.10 - 1.00	1.00 - 1.50	0.10 - 1.00
Reporting Date: 31/03/2021	DETS Sample No	533865	533866	533867	533868	533869

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-03858	Date Sampled	22/03/21	22/03/21	22/03/21	22/03/21	22/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS2 - 1	HS2 - 2	HS2 - 3	HS2 - 4	HS2 - 5
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.50 - 1.50	0.10 - 1.00	1.00 - 1.50	0.10 - 1.00
Reporting Date: 31/03/2021	DETS Sample No	533865	533866	533867	533868	533869

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	146	< 5	< 5	75
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	1780	13850	63	< 5	5567
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-03858	Date Sampled	22/03/21	22/03/21	22/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	HS2 - 1	HS2 - 3	HS2 - 5		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00		
Reporting Date: 31/03/2021	DETS Sample No	533865	533867	533869		

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008		
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1		



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-03858	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 31/03/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
533865	HS2 - 1	None Supplied	0.10 - 1.00	12	Brown sandy clay with stones
533866	HS2 - 2	None Supplied	0.50 - 1.50	11.3	Brown loamy sand with stones
533867	HS2 - 3	None Supplied	0.10 - 1.00	13.9	Brown loamy sand with stones
533868	HS2 - 4	None Supplied	1.00 - 1.50	13	Brown sandy clay with brick and concrete
533869	HS2 - 5	None Supplied	0.10 - 1.00	12.6	Brown loamy sand with brick and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{u/s}

Unsuitable Sample ^{u/s}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-03858	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 31/03/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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t: 01622 850410

DETS Report No: 21-04101

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 29/03/2021

Sample Scheduled Date: 30/03/2021

Report Issue Number: 1

Reporting Date: 06/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04101	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	HS3-1	HS3-2	HS3-3	HS3-4
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.40 - 1.00	0.10 - 1.10	1.00 - 1.70	0.10 - 1.00
Reporting Date: 06/04/2021	DETS Sample No	534854	534855	534856	534857

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	7	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	88	56	44
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	88	63	44
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	10	5	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	94	23	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	104	28	< 21
Total >C5 - C35	mg/kg	< 42	NONE	< 42	192	91	44



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04101	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	HS3-1	HS3-2	HS3-3	HS3-4	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	0.40 - 1.00	0.10 - 1.10	1.00 - 1.70	0.10 - 1.00	
Reporting Date: 06/04/2021	DETS Sample No	534854	534855	534856	534857	

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	5	
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	14	
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-04101	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	HS3-1	HS3-2	HS3-3	HS3-4	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	0.40 - 1.00	0.10 - 1.10	1.00 - 1.70	0.10 - 1.00	
Reporting Date: 06/04/2021	DETS Sample No	534854	534855	534856	534857	

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	< 5	11	< 5	6	< 5
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	13	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	209	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	5	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	14	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	136	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	147	< 5	< 5	< 5	< 5
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04101	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 06/04/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
534854	HS3-1	None Supplied	0.40 - 1.00	11.8	Brown sandy gravel with stones and concrete
534855	HS3-2	None Supplied	0.10 - 1.10	12.7	Brown sandy gravel with brick and concrete
534856	HS3-3	None Supplied	1.00 - 1.70	10.6	Brown sandy gravel with stones and concrete
534857	HS3-4	None Supplied	0.10 - 1.00	13.7	Brown sandy clay with stones and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{1/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-04101	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 06/04/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOG	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

C3 — Primary Source Validation Samples



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Leicestershire
LE12 8PY

DETS Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-03859

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 24/03/2021

Sample Scheduled Date: 25/03/2021

Report Issue Number: 1

Reporting Date: 31/03/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-03859	Date Sampled	22/03/21	22/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	Source 2-1	Source 2-2			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 31/03/2021	DETS Sample No	533875	533876			

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	2.33	2.12		
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluorene	mg/kg	< 0.1	MCERTS	2.82	1.84		
Phenanthrene	mg/kg	< 0.1	MCERTS	4.44	2.82		
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.32		
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	0.15		
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1		
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	9.6	7.3		



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-03859	Date Sampled	22/03/21	22/03/21	22/03/21	22/03/21	22/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 12-1	Source 12-2	Source 12-3	Source 2-1	Source 2-2
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 31/03/2021	DETS Sample No	533872	533873	533874	533875	533876

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	132	88
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	374	308
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	1492	1197
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	1621	1206
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	458	360
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	4077	3159
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	27	38
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	190	173
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	1333	1040
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	1357	1041
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	324	236
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	3232	2528
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	7309	5687



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-03859	Date Sampled	22/03/21	22/03/21	22/03/21	22/03/21	22/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 12-1	Source 12-2	Source 12-3	Source 2-1	Source 2-2
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 31/03/2021	DETS Sample No	533872	533873	533874	533875	533876

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	176
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	279
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-03859	Date Sampled	22/03/21	22/03/21	22/03/21	22/03/21	22/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 8-1	Source 8-2	Source 12-1	Source 12-2	Source 12-3
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 31/03/2021	DETS Sample No	533870	533871	533872	533873	533874

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	9	< 5	< 5	< 5	12
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-03859	Date Sampled	22/03/21	22/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	Source 7-1	Source 7-2			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	None Supplied	None Supplied			
Reporting Date: 31/03/2021	DETS Sample No	533877	533878			

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5		
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5		
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10		
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10		
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5		
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10		
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Trichloroethene	ug/kg	< 5	MCERTS	< 5	12		
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5		
TAME	ug/kg	< 5	MCERTS	< 5	< 5		
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10		
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5		
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2		
Styrene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10		
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5		
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5		
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5		
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10		
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-03859	Date Sampled	22/03/21	22/03/21	22/03/21	22/03/21	22/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 8-1	Source 8-2	Source 12-1	Source 12-2	Source 12-3
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 31/03/2021	DETS Sample No	533870	533871	533872	533873	533874

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-03859	Date Sampled	22/03/21	22/03/21	22/03/21	22/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	Source 2-1	Source 2-2	Source 7-1	Source 7-2	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	
Reporting Date: 31/03/2021	DETS Sample No	533875	533876	533877	533878	

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-03859
G & J Geoenvironmental Consultants Ltd
Site Reference: Middlemore Lane
Project / Job Ref: GJ049
Order No: None Supplied
Reporting Date: 31/03/2021



DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
533870	Source 8-1	None Supplied	None Supplied	9.1	Light brown sandy clay with stones
533871	Source 8-2	None Supplied	None Supplied	8.8	Light brown sandy clay with stones
533872	Source 12-1	None Supplied	None Supplied	12.7	Brown sandy gravel with stones
533873	Source 12-2	None Supplied	None Supplied	12.7	Brown sandy gravel with stones and concrete
533874	Source 12-3	None Supplied	None Supplied	18.1	Brown sandy gravel with stones and concrete
533875	Source 2-1	None Supplied	None Supplied	9.6	Light brown sandy clay
533876	Source 2-2	None Supplied	None Supplied	8.2	Light brown sandy clay with stones
533877	Source 7-1	None Supplied	None Supplied	13.3	Brown sandy clay with stones
533878	Source 7-2	None Supplied	None Supplied	13.5	Brown sandy gravel with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No:	21-03859
G & J Geoenvironmental Consultants Ltd	
Site Reference:	Middlemore Lane
Project / Job Ref:	GJ049
Order No:	None Supplied
Reporting Date:	31/03/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Loughborough
Leicestershire
LE12 8PY

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Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-04103

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 30/03/2021

Sample Scheduled Date: 30/03/2021

Report Issue Number: 1

Reporting Date: 08/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



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Soil Analysis Certificate						
DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	Source 11-1	Source 11-2			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.50 - 1.50			
Reporting Date: 08/04/2021	DETS Sample No	534863	534864			

Determinand	Unit	RL	Accreditation			
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Detected	
Sample Matrix ^(S)	Material Type	N/a	NONE		Chrysotile present in microscopic loose fibrous asbestos debris and bundles	
Asbestos Type ^(S)	PLM Result	N/a	ISO17025		Chrysotile	
pH	pH Units	N/a	MCERTS	7.5	7.5	
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1237	863	
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.12	0.09	
Sulphide	mg/kg	< 5	NONE	< 5	< 5	
Organic Matter	%	< 0.1	MCERTS	3.3	1.2	
Total Organic Carbon (TOC)	%	< 0.1	MCERTS	1.9	0.7	
Arsenic (As)	mg/kg	< 2	MCERTS	15	10	
W/S Boron	mg/kg	< 1	NONE	2.1	< 1	
Cadmium (Cd)	mg/kg	< 0.2	NONE	1.7	5.1	
Chromium (Cr)	mg/kg	< 2	MCERTS	20	741	
Copper (Cu)	mg/kg	< 4	MCERTS	895	3440	
Lead (Pb)	mg/kg	< 3	MCERTS	104	312	
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS	34	544	
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	
Zinc (Zn)	mg/kg	< 3	MCERTS	946	3550	
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	
EPH (C10 - C40)	mg/kg	< 6	MCERTS	12	148	

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Method Description page describes if the test is performed on the dried or as-received portion
Subcontracted analysis (S)



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 3-1	Source 3-2	Source 11-1	Source 11-2	Source 4-1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.10 - 0.90	0.10 - 1.00	0.50 - 1.50	0.10 - 1.00
Reporting Date: 08/04/2021	DETS Sample No	534861	534862	534863	534864	534865

Determinand	Unit	RL	Accreditation					
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	0.22	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	0.58	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	0.59	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	0.28	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	0.28	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	0.30	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	0.12	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	0.21	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	2.6	< 1.6	< 1.6	< 1.6	< 1.6



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	Source 4-2	Source 9-1	Source 9-2		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	0.50 - 1.20	0.10 - 1.00	0.10 - 1.00		
Reporting Date: 08/04/2021	DETS Sample No	534866	534869	534870		

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Fluoranthene	mg/kg	< 0.1	MCERTS	0.24	< 0.1	< 0.1	
Pyrene	mg/kg	< 0.1	MCERTS	0.20	< 0.1	< 0.1	
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	< 1.6	< 1.6	



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 3-1	Source 3-2	Source 11-1	Source 11-2	Source 4-1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.10 - 0.90	0.10 - 1.00	0.50 - 1.50	0.10 - 1.00
Reporting Date: 08/04/2021	DETS Sample No	534861	534862	534863	534864	534865

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	< 3
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	16	< 3	< 3	< 3	< 3
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	50	< 10	< 10	21	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	67	< 21	< 21	< 21	< 21
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	2	< 2	< 2	< 2	< 2
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	11	< 3	< 3	< 3	< 3
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	14	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	28	< 21	< 21	< 21	< 21
Total >C5 - C35	mg/kg	< 42	NONE	94	< 42	< 42	< 42	< 42



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 4-2	Source 14-1	Source 14-2	Source 9-1	Source 9-2
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.50 - 1.20	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00
Reporting Date: 08/04/2021	DETS Sample No	534866	534867	534868	534869	534870

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	3
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	< 3	< 3	< 3	< 3	38
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	10	55
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	< 10	< 10	89	250
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	< 21	< 21	< 21	99	346
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	10
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	< 3	< 3	4	34
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	51	122
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	< 21	< 21	55	166
Total >C5 - C35	mg/kg	< 42	NONE	< 42	< 42	< 42	155	512



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 3-1	Source 3-2	Source 11-1	Source 11-2	Source 4-1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.10 - 0.90	0.10 - 1.00	0.50 - 1.50	0.10 - 1.00
Reporting Date: 08/04/2021	DETS Sample No	534861	534862	534863	534864	534865

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 4-2	Source 14-1	Source 14-2	Source 9-1	Source 9-2
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.50 - 1.20	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00
Reporting Date: 08/04/2021	DETS Sample No	534866	534867	534868	534869	534870

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	7	< 2	34	< 2	< 2
p & m-xylene	ug/kg	< 2	MCERTS	11	6	58	< 2	< 2
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	14	< 2	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Middlemore Lane	TP / BH No	Source 14-1	Source 14-2	Source 9-1	Source 9-2	
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00	
Reporting Date: 08/04/2021	DETS Sample No	534867	534868	534869	534870	

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	7	8	< 5	6
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	6
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	34	< 2	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	6	58	< 2	< 2
o-Xylene	ug/kg	< 2	MCERTS	< 2	14	< 2	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	146	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	11	< 5	< 5
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 3-1	Source 3-2	Source 11-1	Source 11-2	Source 4-1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.10 - 0.90	0.10 - 1.00	0.50 - 1.50	0.10 - 1.00
Reporting Date: 08/04/2021	DETS Sample No	534861	534862	534863	534864	534865

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	0.011	< 0.008
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	0.011	< 0.008
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	0.011	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	0.011	< 0.008
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	0.022	< 0.008
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	0.022	< 0.008
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-04103	Date Sampled	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 4-2	Source 14-1	Source 14-2	Source 9-1	Source 9-2
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	0.50 - 1.20	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00
Reporting Date: 08/04/2021	DETS Sample No	534866	534867	534868	534869	534870

Determinand	Unit	RL	Accreditation					
PCB Congener 28	mg/kg	0.008	NONE	0.012	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 52	mg/kg	0.008	NONE	0.012	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	< 0.008	< 0.008	< 0.008
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04103
G & J Geoenvironmental Consultants Ltd
Site Reference: Middlemore Lane
Project / Job Ref: GJ049
Order No: None Supplied
Reporting Date: 08/04/2021



DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
534861	Source 3-1	None Supplied	0.10 - 1.00	14	Brown loamy sand with stones and brick
534862	Source 3-2	None Supplied	0.10 - 0.90	11.7	Brown loamy sand with stones and concrete
534863	Source 11-1	None Supplied	0.10 - 1.00	14.3	Brown loamy sand with brick and concrete
534864	Source 11-2	None Supplied	0.50 - 1.50	9.4	Brown sandy gravel with stones and concrete
534865	Source 4-1	None Supplied	0.10 - 1.00	10.2	Brown sandy clay with stones
534866	Source 4-2	None Supplied	0.50 - 1.20	13.9	Brown sandy clay with stones
534867	Source 14-1	None Supplied	0.10 - 1.00	10	Brown sandy gravel with stones and concrete
534868	Source 14-2	None Supplied	0.10 - 1.00	13.3	Brown sandy clay with stones and concrete
534869	Source 9-1	None Supplied	0.10 - 1.00	16.3	Brown sandy gravel with stones and concrete
534870	Source 9-2	None Supplied	0.10 - 1.00	12.4	Brown loamy sand with brick and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{U/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-04103	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 08/04/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOG	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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Kent
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DETS Report No: 21-04204

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 31/03/2021

Sample Scheduled Date: 31/03/2021

Report Issue Number: 1

Reporting Date: 08/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)					
DETS Report No: 21-04204	Date Sampled	30/03/21	30/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	Source7-3	Source7-4		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.10 - 0.90		
Reporting Date: 08/04/2021	DETS Sample No	535201	535202		

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5		
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5		
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10		
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10		
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5		
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5		
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10		
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5		
TAME	ug/kg	< 5	MCERTS	< 5	< 5		
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5		
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10		
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5		
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5		
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2		
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2		
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2		
Styrene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10		
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5		
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5		
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5		
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5		
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5		
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5		
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5		
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10		
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5		



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Soil Analysis Certificate - PCB (7 Congeners)						
DETS Report No: 21-04204	Date Sampled	30/03/21	30/03/21			
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Middlemore Lane	TP / BH No	Source7-3	Source7-4			
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied			
Order No: None Supplied	Depth (m)	0.10 - 1.00	0.10 - 0.90			
Reporting Date: 08/04/2021	DETS Sample No	535201	535202			

Determinand	Unit	RL	Accreditation			
PCB Congener 28	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 52	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 101	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 118	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 138	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 153	mg/kg	0.008	NONE	< 0.008	< 0.008	
PCB Congener 180	mg/kg	0.008	NONE	< 0.008	< 0.008	
Total PCB (7 Congeners)	mg/kg	< 0.1	NONE	< 0.1	< 0.1	



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04204	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 08/04/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
535201	Source7-3	None Supplied	0.10 - 1.00	6.7	Brown sandy gravel with stones
535202	Source7-4	None Supplied	0.10 - 0.90	9.7	Brown sandy gravel with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No: 21-04204	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 08/04/2021	

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received



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DETS Report No: 21-04957

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 16/04/2021

Sample Scheduled Date: 16/04/2021

Report Issue Number: 1

Reporting Date: 22/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04957	Date Sampled	13/04/21	13/04/21	13/04/21	13/04/21	13/04/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 2 NF1	Source 2 SF1	Source 2 EF1	Source 2 WF1	Source 2 Base 1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 22/04/2021	DETS Sample No	538290	538291	538292	538293	538294

Determinand	Unit	RL	Accreditation					
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	2	< 2	< 2	< 2
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	13	< 2	< 2	9
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	11	68	7	< 3	45
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	14	76	7	< 3	44
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	< 10	18	< 10	< 10	< 10
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	25	177	< 21	< 21	98
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	< 2	< 2
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	< 2	2	< 2	< 2	< 2
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	< 2	22	4	< 2	15
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	< 3	26	5	< 3	17
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Aromatic (C5 - C35)	mg/kg	< 21	NONE	< 21	51	< 21	< 21	32
Total >C5 - C35	mg/kg	< 42	NONE	< 42	228	< 42	< 42	129



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04957	Date Sampled	13/04/21	13/04/21	13/04/21	13/04/21	13/04/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 2 NF1	Source 2 SF1	Source 2 EF1	Source 2 WF1	Source 2 Base 1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 22/04/2021	DETS Sample No	538290	538291	538292	538293	538294

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	7	< 2	< 2	9	< 2
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	7	< 5
Ethylbenzene	ug/kg	< 2	MCERTS	5	< 2	< 2	4	< 2
p & m-xylene	ug/kg	< 2	MCERTS	12	< 2	< 2	12	< 2
o-xylene	ug/kg	< 2	MCERTS	6	< 2	< 2	6	< 2
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-04957	Date Sampled	13/04/21	13/04/21	13/04/21	13/04/21	13/04/21
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Middlemore Lane	TP / BH No	Source 2 NF1	Source 2 SF1	Source 2 EF1	Source 2 WF1	Source 2 Base 1
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Reporting Date: 22/04/2021	DETS Sample No	538290	538291	538292	538293	538294

Determinand	Unit	RL	Accreditation					
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Benzene	ug/kg	< 2	MCERTS	7	< 2	< 2	9	< 2
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Trichloroethene	ug/kg	< 5	MCERTS	14	< 5	< 5	13	19
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	7	< 5
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Ethyl Benzene	ug/kg	< 2	MCERTS	5	< 2	< 2	4	< 2
m,p-Xylene	ug/kg	< 2	MCERTS	12	< 2	< 2	12	< 2
o-Xylene	ug/kg	< 2	MCERTS	6	< 2	< 2	6	< 2
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	6
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Propylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	8	< 5	< 5	< 5
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	11	< 5	< 5	7	9
sec-Butylbenzene	ug/kg	< 5	MCERTS	< 5	26	< 5	< 5	8
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	7	< 5	< 5	< 5
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
n-Butylbenzene	ug/kg	< 5	MCERTS	< 5	23	< 5	< 5	< 5
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5
1,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	< 10	< 10
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	< 5	< 5



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04957
G & J Geoenvironmental Consultants Ltd
Site Reference: Middlemore Lane
Project / Job Ref: GJ049
Order No: None Supplied
Reporting Date: 22/04/2021



DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
538290	Source 2 NF1	None Supplied	None Supplied	10	Red sandy clay
538291	Source 2 SF1	None Supplied	None Supplied	9.9	Light grey sandy clay
538292	Source 2 EF1	None Supplied	None Supplied	10.7	Light grey sandy clay
538293	Source 2 WF1	None Supplied	None Supplied	9.2	Red sandy clay with stones
538294	Source 2 Base 1	None Supplied	None Supplied	10.2	Red sandy clay with stones

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{u/s}

Unsuitable Sample ^{u/s}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 21-04957

G & J Geoenvironmental Consultants Ltd

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Reporting Date: 22/04/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

C4 — Road Validation and Surfacing Material Samples

26/03/21	26/03/21	26/03/21	26/03/21	26/03/21	26/03/21	26/03/21	25/03/21	25/03/21	25/03/21	25/03/21	25/03/21	26/03/21	26/03/21	26/03/21	26/03/21
None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
R16	R17	R18	R19	R20	R21	R22	Road Tarmac 1	Road Tarmac 2	Road Tarmac 3	Road Tarmac 4	Road Tarmac 5	Tarmac 3	Tarmac 4	Tarmac 5	Tarmac 6
None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
0.10 - 1.00	0.10 - 1.00	0.10 - 1.00	0.10 - 1.00	0.50 - 1.50	0.10 - 1.00	1.00 - 1.80	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
534925	534926	534927	534928	534929	534930	534931	534842	534843	534844	534845	534846	534936	534937	534938	534939

Highest RT GAC

Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected									
7.5	7.7	7.8	9.7	7.6	7	8.3									
< 2	< 2	< 2	< 2	< 2	< 2	< 2									
1155	677	262	1682		800	209									
0.12	0.07	0.03	0.17	0.08	0.02	0.05									
< 5	< 5	< 5	< 5	< 5	< 5	< 5									
1.4	0.8	0.4	0.3	0.4	0.4	0.1									
0.8	0.4	0.2	0.2	0.2	0.2	< 0.1									
5	4	< 2	7	8	< 2	5									
< 1	< 1	< 1	< 1	< 1	< 1	< 1									
< 0.2	< 0.2	< 0.2	< 0.2	0.5	< 0.2	0.3									
14	14	5	11	16	12	15									
83	39	65	55	972	13	104									
27	35	343	43	75	11	22									
< 1	< 1	< 1	< 1	< 1	< 1	< 1									
10	11	5	13	18	7	12									
< 3	< 3	< 3	< 3	< 3	< 3	< 3									
244	82	81	106	929	34	144									
< 2	< 2	< 2	< 2	< 2	< 2	< 2									
52	192	1870	< 6	78	< 6	< 6									
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.13	< 0.1	< 0.1	< 0.1	< 0.1	1.55	36.4	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.57	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	1.87	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	0.28	< 0.1	< 0.1	9.21	< 0.1	< 0.1	< 0.1	< 0.1	0.93	63.9	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	0.26	< 0.1	< 0.1	< 0.1	17.7	< 0.1	< 0.1	< 0.1	< 0.1	0.5	62.5	< 0.1
0.43	0.13	0.14	< 0.1	3.34	< 0.1	< 0.1	< 0.1	320	0.31	0.91	1.75	0.41	1.04	655	0.96
< 0.1	< 0.1	< 0.1	< 0.1	0.59	< 0.1	< 0.1	< 0.1	70.8	< 0.1	0.12	0.39	< 0.1	0.22	172	0.16
0.58	< 0.1	< 0.1	< 0.1	4.34	0.13	< 0.1	< 0.1	214	0.25	0.5	1.48	0.15	0.35	452	0.64
0.44	< 0.1	< 0.1	< 0.1	3.75	< 0.1	< 0.1	0.33	168	0.22	0.44	1.26	< 0.1	0.19	350	0.27
0.15	< 0.1	< 0.1	< 0.1	1.3	< 0.1	< 0.1	< 0.1	94	< 0.1	< 0.1	0.54	< 0.1	< 0.1	133	< 0.1
0.17	< 0.1	< 0.1	< 0.1	1.27	< 0.1	< 0.1	< 0.1	70.7	< 0.1	< 0.1	0.61	< 0.1	< 0.1	117	< 0.1
0.2	< 0.1	< 0.1	< 0.1	1.2	< 0.1	< 0.1	< 0.1	83	< 0.1	< 0.1	0.63	< 0.1	< 0.1	117	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	0.54	< 0.1	< 0.1	< 0.1	36.6	< 0.1	< 0.1	0.28	< 0.1	< 0.1	49.3	< 0.1
0.15	< 0.1	< 0.1	< 0.1	0.99	< 0.1	< 0.1	< 0.1	83.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	99.2	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	0.48	< 0.1	< 0.1	< 0.1	38.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	54.2	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	7.22	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	9.25	< 0.1
< 0.1	< 0.1	< 0.1	< 0.1	0.46	< 0.1	< 0.1	< 0.1	32.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	44.5	< 0.1
							< 0.1	13.9	< 0.1	< 0.1	< 0.1				
							< 1	414	< 1	< 1	2.1				
							< 1	962	< 1	1.5	5.1				
2.1	< 1.6	< 1.6	< 1.6	18.8	< 1.6	< 1.6	< 1.6	1250	< 1.6	2	6.9	< 1.6	4.8	2426	2
							< 1.7	1260	< 1.7	2	6.9				
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
< 2	< 2	12	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
< 2	6	160	6	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	8	< 2
< 3	11	473	9	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	< 3	9	149	< 3
< 3	< 3	41	< 3	< 3	< 3	< 3	< 3	5	< 3	< 3	< 3	< 3	5	< 3	14
< 10	< 10	< 10	< 10	< 10	< 10	< 10	< 10	703	< 10	< 10	403	660	507	2364	1795
< 21	< 21	686	< 21	< 21	< 21	< 21	< 21	708	< 21	< 21	403	665	507	2474	1809
< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
< 2	< 2	3	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
< 2	< 2	55	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	45	< 2
< 2	< 2	189	< 2	< 2	< 2	< 2	< 2	50	< 2	< 2	< 2	< 2	< 2	661	< 2
< 3	< 3	30	< 3	14	< 3	< 3	< 3	1290	< 3	< 3	< 3	< 3	28	3786	22
< 10	< 10	118	< 10	< 10	< 10	< 10	< 10	829	602	305	144	653	< 10	1119	3471
< 21	26	395	< 21	< 21	< 21	< 21	< 21	829	1943	305	144	653	< 21	1147	7963
< 42	43	1081	< 42	< 42	< 42	< 42	< 42	1537	1943	305	547	1318	507	3621	9760
< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5
< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2	< 2
< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5	< 5

14.00 640
6.10 240000
1.10 410
34.00 8600
1790.00 68000
343.00 2300
0.00 1100
37.00 980
0.00 12000
2320.00 730000

1870.00
36.40 460
1.87 97000
63.90 9700
62.50 68000
655.00 22000
172.00 540000
452.00 23000
350.00 54000
133.00 170
117.00 350
117.00 44
49.30 1200
99.20 77
54.20 510
9.25 3.6
44.50 4000

2420.00 500

0.00 5900
0.00 17000
12.00 4800
160.00 23000
473.00 82000
561.00
2364.00
2474.00
0.00 46000
0.00 110000
3.00 8100
55.00 28000
661.00 37000
3786.00 28000
3471 28000

9760.00 5000
0.00 47000
0.00 1920000
0.00 1220000
0.00 2820000
0.00 1120000
0.00



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LE12 8PY

DETS Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 21-04102

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 29/03/2021

Sample Scheduled Date: 30/03/2021

Report Issue Number: 1

Reporting Date: 06/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



DETS Ltd
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Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04102	Date Sampled	25/03/21	25/03/21	25/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	Windrow 1-1	Windrow 1-2	Windrow 1-3		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 06/04/2021	DETS Sample No	534858	534859	534860		

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	33	< 2	31	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	199	< 2	394	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	2119	13	3862	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	3020	43	4850	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	1141	< 10	1521	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	6511	55	10659	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	31	< 2	31	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	767	7	681	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	1178	23	1063	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	377	< 10	359	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	2353	30	2134	
Total >C5 - C35	mg/kg	< 42	NONE	8864	85	12793	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04102	Date Sampled	25/03/21	25/03/21	25/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	Windrow 1-1	Windrow 1-2	Windrow 1-3		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 06/04/2021	DETS Sample No	534858	534859	534860		

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5		



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Rose Lane
Lenham Heath
Maidstone
Kent ME17 2JN
Tel : 01622 850410



Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-04102	Date Sampled	25/03/21	25/03/21	25/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	Windrow 1-1	Windrow 1-2	Windrow 1-3		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 06/04/2021	DETS Sample No	534858	534859	534860		

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
n-Propylbenzene	ug/kg	< 5	MCERTS	32	< 5	< 5	
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
sec-Butylbenzene	ug/kg	< 5	MCERTS	94	< 5	< 5	
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
n-Butylbenzene	ug/kg	< 5	MCERTS	191	< 5	< 5	
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	



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Lenham Heath
Maidstone
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Tel : 01622 850410



Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04102	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 06/04/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
534858	Windrow 1-1	None Supplied	None Supplied	8	Brown sand with stones and concrete
534859	Windrow 1-2	None Supplied	None Supplied	12.1	Light brown sand
534860	Windrow 1-3	None Supplied	None Supplied	10	Grey sandy gravel with stones and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No:	21-04102
G & J Geoenvironmental Consultants Ltd	
Site Reference:	Middlemore Lane
Project / Job Ref:	GJ049
Order No:	None Supplied
Reporting Date:	06/04/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 – C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

C5 – Treated Material



Chris Hepworth
G & J Geoenvironmental Consultants Ltd
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LE12 8PY

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Lenham Heath
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t: 01622 850410

DETS Report No: 21-04102

Site Reference: Middlemore Lane

Project / Job Ref: GJ049

Order No: None Supplied

Sample Receipt Date: 29/03/2021

Sample Scheduled Date: 30/03/2021

Report Issue Number: 1

Reporting Date: 06/04/2021

Authorised by:

A handwritten signature in black ink, appearing to read "Dave Ashworth".

Dave Ashworth
Technical Manager

Dates of laboratory activities for each tested analyte are available upon request.

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.



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Soil Analysis Certificate - TPH CWG Banded

DETS Report No: 21-04102	Date Sampled	25/03/21	25/03/21	25/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	Windrow 1-1	Windrow 1-2	Windrow 1-3		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 06/04/2021	DETS Sample No	534858	534859	534860		

Determinand	Unit	RL	Accreditation				
Aliphatic >C5 - C6	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aliphatic >C6 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aliphatic >C8 - C10	mg/kg	< 2	MCERTS	33	< 2	31	
Aliphatic >C10 - C12	mg/kg	< 2	MCERTS	199	< 2	394	
Aliphatic >C12 - C16	mg/kg	< 3	MCERTS	2119	13	3862	
Aliphatic >C16 - C21	mg/kg	< 3	MCERTS	3020	43	4850	
Aliphatic >C21 - C34	mg/kg	< 10	MCERTS	1141	< 10	1521	
Aliphatic (C5 - C34)	mg/kg	< 21	NONE	6511	55	10659	
Aromatic >C5 - C7	mg/kg	< 0.01	NONE	< 0.01	< 0.01	< 0.01	
Aromatic >C7 - C8	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	
Aromatic >C8 - C10	mg/kg	< 2	MCERTS	< 2	< 2	< 2	
Aromatic >C10 - C12	mg/kg	< 2	MCERTS	31	< 2	31	
Aromatic >C12 - C16	mg/kg	< 2	MCERTS	767	7	681	
Aromatic >C16 - C21	mg/kg	< 3	MCERTS	1178	23	1063	
Aromatic >C21 - C35	mg/kg	< 10	MCERTS	377	< 10	359	
Aromatic (C5 - C35)	mg/kg	< 21	NONE	2353	30	2134	
Total >C5 - C35	mg/kg	< 42	NONE	8864	85	12793	



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Soil Analysis Certificate - BTEX / MTBE						
DETS Report No: 21-04102	Date Sampled	25/03/21	25/03/21	25/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	Windrow 1-1	Windrow 1-2	Windrow 1-3		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 06/04/2021	DETS Sample No	534858	534859	534860		

Determinand	Unit	RL	Accreditation					
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5		
Ethylbenzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
p & m-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
o-xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2		
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5		



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)						
DETS Report No: 21-04102	Date Sampled	25/03/21	25/03/21	25/03/21		
G & J Geoenvironmental Consultants Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Middlemore Lane	TP / BH No	Windrow 1-1	Windrow 1-2	Windrow 1-3		
Project / Job Ref: GJ049	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: None Supplied	Depth (m)	None Supplied	None Supplied	None Supplied		
Reporting Date: 06/04/2021	DETS Sample No	534858	534859	534860		

Determinand	Unit	RL	Accreditation				
Dichlorodifluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Vinyl Chloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chloromethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Chloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromomethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Trichlorofluoromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
MTBE	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
trans-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
cis-1,2-Dichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chloroform	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,1-Trichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1-Dichloropropene	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Carbon Tetrachloride	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dichloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
1,2-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Trichloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromodichloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Dibromomethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
TAME	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
cis-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Toluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
trans-1,3-Dichloropropene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,2-Trichloroethane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
1,3-Dichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Tetrachloroethene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Dibromochloromethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2-Dibromoethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Chlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,1,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Ethyl Benzene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
m,p-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
o-Xylene	ug/kg	< 2	MCERTS	< 2	< 2	< 2	
Styrene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
Bromoform	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Isopropylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,1,2,2-Tetrachloroethane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2,3-Trichloropropane	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
n-Propylbenzene	ug/kg	< 5	MCERTS	32	< 5	< 5	
Bromobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,3,5-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
4-Chlorotoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
tert-Butylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,2,4-Trimethylbenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
sec-Butylbenzene	ug/kg	< 5	MCERTS	94	< 5	< 5	
p-Isopropyltoluene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,3-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
1,4-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
n-Butylbenzene	ug/kg	< 5	MCERTS	191	< 5	< 5	
1,2-Dichlorobenzene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	
2,2-Dibromo-3-chloropropane	ug/kg	< 10	MCERTS	< 10	< 10	< 10	
Hexachlorobutadiene	ug/kg	< 5	MCERTS	< 5	< 5	< 5	



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 21-04102	
G & J Geoenvironmental Consultants Ltd	
Site Reference: Middlemore Lane	
Project / Job Ref: GJ049	
Order No: None Supplied	
Reporting Date: 06/04/2021	

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
534858	Windrow 1-1	None Supplied	None Supplied	8	Brown sand with stones and concrete
534859	Windrow 1-2	None Supplied	None Supplied	12.1	Light brown sand
534860	Windrow 1-3	None Supplied	None Supplied	10	Grey sandy gravel with stones and concrete

Moisture content is part of procedure E003 & is not an accredited test

Insufficient Sample ^{I/S}

Unsuitable Sample ^{U/S}



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Soil Analysis Certificate - Methodology & Miscellaneous Information	
DETS Report No:	21-04102
G & J Geoenvironmental Consultants Ltd	
Site Reference:	Middlemore Lane
Project / Job Ref:	GJ049
Order No:	None Supplied
Reporting Date:	06/04/2021

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Soil	D	Boron - Water Soluble	Determination of water soluble boron in soil by 2:1 hot water extract followed by ICP-OES	E012
Soil	AR	BTEX	Determination of BTEX by headspace GC-MS	E001
Soil	D	Cations	Determination of cations in soil by aqua-regia digestion followed by ICP-OES	E002
Soil	D	Chloride - Water Soluble (2:1)	Determination of chloride by extraction with water & analysed by ion chromatography	E009
Soil	AR	Chromium - Hexavalent	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry	E016
Soil	AR	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E015
Soil	AR	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E015
Soil	D	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through extraction with cyclohexane	E011
Soil	AR	Diesel Range Organics (C10 - C24)	Determination of hexane/acetone extractable hydrocarbons by GC-FID	E004
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of saturated calcium sulphate followed by electrometric measurement	E022
Soil	AR	Electrical Conductivity	Determination of electrical conductivity by addition of water followed by electrometric measurement	E023
Soil	D	Elemental Sulphur	Determination of elemental sulphur by solvent extraction followed by GC-MS	E020
Soil	AR	EPH (C10 - C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH Product ID	Determination of acetone/hexane extractable hydrocarbons by GC-FID	E004
Soil	AR	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of acetone/hexane extractable hydrocarbons by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E004
Soil	D	Fluoride - Water Soluble	Determination of Fluoride by extraction with water & analysed by ion chromatography	E009
Soil	D	Fraction Organic Carbon (FOC)	Determination of TOC by combustion analyser.	E027
Soil	D	Organic Matter (SOM)	Determination of TOC by combustion analyser.	E027
Soil	D	TOC (Total Organic Carbon)	Determination of TOC by combustion analyser.	E027
Soil	AR	Exchangeable Ammonium	Determination of ammonium by discrete analyser.	E029
Soil	D	FOC (Fraction Organic Carbon)	Determination of fraction of organic carbon by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	D	Loss on Ignition @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace	E019
Soil	D	Magnesium - Water Soluble	Determination of water soluble magnesium by extraction with water followed by ICP-OES	E025
Soil	D	Metals	Determination of metals by aqua-regia digestion followed by ICP-OES	E002
Soil	AR	Mineral Oil (C10 - C40)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge	E004
Soil	AR	Moisture Content	Moisture content: determined gravimetrically	E003
Soil	D	Nitrate - Water Soluble (2:1)	Determination of nitrate by extraction with water & analysed by ion chromatography	E009
Soil	D	Organic Matter	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	PAH - Speciated (EPA 16)	Determination of PAH compounds by extraction in acetone and hexane followed by GC-MS with the use of surrogate and internal standards	E005
Soil	AR	PCB - 7 Congeners	Determination of PCB by extraction with acetone and hexane followed by GC-MS	E008
Soil	D	Petroleum Ether Extract (PEE)	Gravimetrically determined through extraction with petroleum ether	E011
Soil	AR	pH	Determination of pH by addition of water followed by electrometric measurement	E007
Soil	AR	Phenols - Total (monohydric)	Determination of phenols by distillation followed by colorimetry	E021
Soil	D	Phosphate - Water Soluble (2:1)	Determination of phosphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Total	Determination of total sulphate by extraction with 10% HCl followed by ICP-OES	E013
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of sulphate by extraction with water & analysed by ion chromatography	E009
Soil	D	Sulphate (as SO4) - Water Soluble (2:1)	Determination of water soluble sulphate by extraction with water followed by ICP-OES	E014
Soil	AR	Sulphide	Determination of sulphide by distillation followed by colorimetry	E018
Soil	D	Sulphur - Total	Determination of total sulphur by extraction with aqua-regia followed by ICP-OES	E024
Soil	AR	SVOC	Determination of semi-volatile organic compounds by extraction in acetone and hexane followed by GC-MS	E006
Soil	AR	Thiocyanate (as SCN)	Determination of thiocyanate by extraction in caustic soda followed by acidification followed by addition of ferric nitrate followed by colorimetry	E017
Soil	D	Toluene Extractable Matter (TEM)	Gravimetrically determined through extraction with toluene	E011
Soil	D	Total Organic Carbon (TOC)	Determination of organic matter by oxidising with potassium dichromate followed by titration with iron (II) sulphate	E010
Soil	AR	TPH CWG (ali: C5- C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C35. C5 to C8 by headspace GC-MS	E004
Soil	AR	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of hexane/acetone extractable hydrocarbons by GC-FID fractionating with SPE cartridge for C8 to C44. C5 to C8 by headspace GC-MS	E004
Soil	AR	VOCs	Determination of volatile organic compounds by headspace GC-MS	E001
Soil	AR	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E001

D Dried
AR As Received

APPENDIX 2

Technical Note Reviewing the Remediation Works

Our ref: SF/CA11906/TN001

Date: 05 August 2021

Your ref:

Technical Note CA11906-REM: Review of Remediation Works at Middlemore Lane

G&J Geoenvironmental Consultants Ltd (G&J) was commissioned by St Francis Group (Aldridge) Ltd to carry out the verification of remediation works at the former McKechnie Brass Works, located off Middlemore Lane, Aldridge, West Midlands. It has been proposed that the site will be redeveloped for commercial use.

Remediation works were undertaken by [DSM](#), who are considered to be a reputable remediation contractor with evident experience.

Remediation Validation

Remediation works on site resulted in approximately 400-500m³ of hydrocarbon contaminated soil being removed for treatment, primarily from an excavation around an old underground storage tank.

Bioremediation of the hydrocarbon hotspots and any organic materials suitable for this remediation technique. Inorganic contaminants (such as metals) will obviously be mitigated within the end development by surface sealing (concrete slabs, yards, roads etc.). We would not necessarily expect any disposal of soils but free product on water would be disposed / sent to an offsite treatment centre.

Bioremediation treatment was undertaken followed by direct re-use of material, to address potential vapour inhalation by site users and reduce the risk of organic pollution of controlled waters to acceptable levels.

Although the original testing of the material showed concentrations exceeding the site remedial target for total hydrocarbons, which is a nominal target considered to be indicative of potential 'gross' contamination, there were no exceedances of the generic assessment criteria (GAC) for a commercial land use, suggesting the material does not present a significant risk.



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Furthermore, inspection of the area where it is understood the material was re-used/backfilled did not reveal any evidence of significant or gross contamination. It is therefore considered that there are no residual significant risks associated with this material.

It was intended that the soils would undergo further treatment before reuse, along with the small amount of soil added from certain excavations. However, towards the end of April, the soils were re-used in error by the Contractor. Inspection by the geo-environmental consultant of the approximate area where it is understood to be re-used did not reveal any evidence of significant contamination, and no evidence of contaminated soils near the surface was noted across the site as a whole.

Validation sampling and analysis undertaken across the site, either based on the site grid, or investigation of potential primary sources, have resulted in all samples passing remedial targets, with the following exceptions:

North-east corner of the site

Excavation of a potential hotspot in the north-east of the site was not possible due to the presence of a live sewer and retained site road. Trial pits were undertaken to the edge of the road and samples taken for analysis, which revealed trichloroethene (TCE) in two samples at concentrations in excess of the commercial GAC. Although there is a likelihood of a hotspot of TCE remaining in this area beneath a portion of the road, it is considered that this localised contamination does not currently present a significant risk.

Whilst the published commercial GACs are considered to be conservative criteria, the elevated TCE concentrations may need further consideration. As part of the proposed development, it is anticipated that a service yard will cover this area and no buildings will be located above this area. If buildings are to be constructed in this area, potential risks via the vapour inhalation pathway would need to be addressed.

Road / Car Park Surfacing

Two out of nine samples of surfacing material recorded total polycyclic aromatic hydrocarbons (PAHs) in excess of the site remedial target, indicating the presence of coal tar. The remediation target for PAH is not risk driven and was agreed with the EA as a mechanism to prevent gross pollution. These materials are not considered to present a significant risk, given the PAHs are bound into a solid matrix.



Asbestos

Previous investigations on site included only limited testing for asbestos. As such, testing for asbestos on validation samples was undertaken to allow a post-remediation assessment of the risks from asbestos to the proposed development.

During the site works, 11 out of 118 samples which underwent asbestos analysis recorded the presence of asbestos fibres, which was generally in the form of microscopic fibre bundles or cement debris.

The risks from asbestos contamination are considered to be low, however it is considered that a cover layer may be required in any landscaped areas given that appropriate soil is required to act as a suitable growing media. This capping layer may need to comprise a barrier layer of 100mm coarse aggregate or a geotextile membrane (subject to further testing confirming presence of asbestos), overlain by 300mm of clean imported soil to act as a suitable growing media.

Cover Layer

Given that appropriate soil is required to act as a suitable growing media, and in order to address any residual risks, a cover of clean soil should be placed in any landscaped areas.

The areas of identified asbestos should be recorded in relation to future earthworks. Potential risk associated with asbestos is only of a considerable level where the associated material is exposed at the surface. However, where there is scheduled to be hardstanding and suitable clean cover, the associated asbestos risk is minimised.

Groundwater

Leaching of contamination in soil through the unsaturated zone to the shallow groundwater and via the saturated ground to the Anchor Brook / Wyrley and Essington Canal was highlighted as a potential risk.

The reduction to the agreed remedial targets in soils (which are significantly lower than commercial S4UL / C4SLs for the Contaminants of Concern) will have a concomitant effect on the groundwater in the surrounding area. Given the status and designation of the aquifer for the area, correspondence records show that the Environment Agency are comfortable with primary source removal and soils treatment and 'betterment' of groundwater over time as the most reasonable, sustainable, and practicable approach to the site.



Ground Gas

Based on the site CSM, the requirement for gas protection is unlikely but possible, in any event the post remediation risks are likely to be much reduced when compared to the baseline conditions.

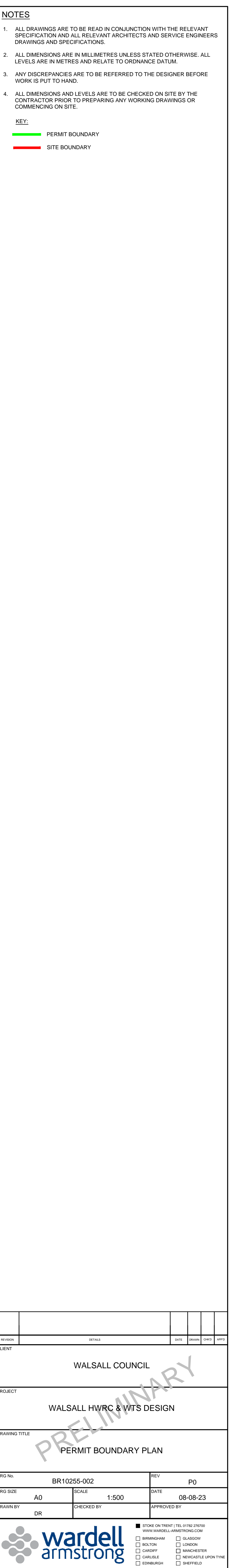
Details of the proposed end use and site layout would dictate the requirement for gas well installation and the monitoring frequency thereof. In addition, any post remediation risks would only be applicable to buildings via vapour intrusion from residual contamination. For example, there would be no need to install any form of gas protection in 'open air areas' as it has been shown using variations of the Johnson and Ettinger Vapor Intrusion Model, and other vapour specialists that vapour from hydrocarbon contamination and ground gas of breakdown products can be present at exceptionally high volumes (but less than explosive limit) in 'non-confined spaces' and still not present a risk to human health.

Summary

No further remediation works are deemed necessary, as it is considered that the aims of the remediation scope have been achieved and the site is suitable for use in the context of a commercial end use and current proposed HWRC redevelopment.

Detailed review of soft landscaped areas (and areas with limited ground cover) should be undertaken as part of any Detailed Design Stage. This information will be further assessed in relation to the pending planning conditions that will be associated with the proposed redevelopment.

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