



GEO

Environmental Engineering



**PHASE 2: GROUND INVESTIGATION REPORT &
REMEDIATION STRATEGY**

PROPOSED RESIDENTIAL DEVELOPMENT AT

FORMER BECKERMET SERVICE GARAGE

NURSERY ROAD

BECKERMET

CUMBRIA

FOR

MR. DAVID WHITFIELD

GEO Environmental Engineering

DOCUMENT CONTROL SHEET

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Consultant: Alpha Design

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1.0 Introduction

1.1 Brief

Geo Environmental Engineering Ltd (GEO) have been commissioned by Alpha Design on behalf of Mr David Whitfield ('the client') to carry out a programme of Phase 2 ground investigation works on a parcel of land located off Nursery Road in the village of Beckermat, Cumbria, at the site of a former fuel station and garage, to facilitate proposals to redevelop the site for residential purposes in the near future.

This investigation has been carried out to determine the ground conditions across the site to assess the risks to human health and environmental receptors from potential ground contamination and hazardous ground gases, with the primary aim of assisting the discharge of any relevant and outstanding planning conditions.

1.2 Proposed Development

Based on the proposed development plan provided to GEO (Appendix I), it is understood that the site will be developed into five residential properties with gardens, car parking and associated roadway infrastructure. Further development details can be obtained from the Client and /or Design Team.

1.3 Site Location and Description

The site, occupying an area of c.0.16ha is located on the south side of Nursery Road within the village of Beckermat, Cumbria, as indicated on the site location plan included in Appendix I. Access to the site is from Nursery Road.

- National Grid Reference: 302222, 506673
- Post Code: CA21 2XD

The site was previously occupied by Beckermat Service Garage with fuel filling services. Following demolition and tank removal in 2024, the site is now cleared and undeveloped. A small utility box is present on the central area adjacent to Nursery Road, with the remaining site area comprising exposed soil and grass. A small retaining wall is present on the western extent of the site, with land to the south of the wall being circa 1.0m above the main site level and vegetated. A grassed embankment extends across the southern boundary.

There was no evidence of any contamination sources (bulk fuel/oil or chemical storage) noted on the site during the walkover. However, a review of the available information provided by the client indicates former underground fuel storage tanks (USTs) were present in the western part of the site which were removed in 2024.

A topographical survey has not been provided, however, Ordnance Survey data suggests that the site is at an elevation of c.33.8m OD.

1.3 Previous Reports

A Phase 1 Desk Top Study (PRA) has been completed by GEO (ref.: GEO2026-7395, dated October 2026), identifying potential residual risks from hydrocarbon contamination within the footprint of the historical development and within the infilled areas of the former tank storage, which were exhumed during 2024. A moderate risk to human health was concluded, with a requirement for a Phase 2 Ground Investigation to quantify the potential contamination risks. The Phase 1 DTS should be read in conjunction with this report.

2.0 Ground Investigation Reporting

2.1 Ground Investigation Aims and Objectives

The overall objective of this ground investigation is to provide further information relating to the geoenvironmental properties associated with the existing made ground and superficial deposits, and groundwater conditions across the development area.

In addition, the works will determine the potential risks posed to human health and the surrounding environment (Controlled Waters) resulting from potential sources of land contamination associated with the sites previous historical land uses, and potential risk from ground gases & volatile vapours affecting the proposed residential development. This will assist with determining the scope of any further investigation works or remediation measures required for the site prior to commencing with the proposed development.

2.2 Guidelines, Codes of Practice and Third-Party Accreditations

This report incorporates a Level 1 Ground Contamination and Ground Gas / Volatile Vapour Risk Assessment for Human Health (Generic Quantitative Risk Assessment – GQRA).

The laboratory testing (ground contamination) was completed by UKAS and MCERTS accredited laboratories with details given in Section 6, with copies of the test reports contained within Appendix III.

This GIR has generally been completed in accordance with the following documents.

- Land Contamination Risk Management Stages 1 to 4 (LCRM – www.gov.uk) – June 2025
- CLR11: Model Procedures for the Management of Land Contamination. DEFRA/EA, 2004.
- BS10175:2026: Investigation of Potentially Contaminated Sites - Code of Practice
- BS5930:2015 + A1:2020: Code of Practice for Site Investigations
- BS8485: 2015 + A1:2019: Code of practice for the design of protective measures for methane and carbon dioxide ground gases for new buildings
- BS 8576:2013 Guidance on investigations for ground gas - Permanent gases and volatile organic compounds (VOCs)
- CIRIA Report C665; Assessing risks posed by hazardous ground gases to buildings, 2007
- BR211: 2023 Radon, Guidance on protective measures for new buildings
- UK Specification for Ground Investigation, 2nd Edition. Site Investigation Steering Group, 2011.
- Effective Site Investigation. Site Investigation Steering Group, 2013.
- SP1010 Development of Category 4 Screening Levels Main Report, 2014.
- The LQM/CIEH S4UL's for Human Health Risk Assessment, 2015.

2.3 Ground Investigation Limitations of Use

Although every effort is made to ensure that a full and comprehensive investigation is completed, it should always be borne in mind that ground conditions have the potential to vary between exploratory hole locations and it is recommended that the developer adopts a “watching brief” during any future development works to ensure that any potential variations encountered are identified and dealt with in an appropriate manner. The GIR and its contents are limited to the boundaries of the site, as indicated on the plans contained in Appendix I.

When considering the scope of works completed for the development proposals, any features, issues or items not specifically mentioned cannot be assumed to have been covered or included.

The conclusions and recommendations presented within this report are considered reasonable based on the available information. However, these cannot be guaranteed to gain regulatory approval. Therefore, the report should be passed to the appropriate regulatory authorities and/or other key stakeholders, including warranty providers in order to seek their approval of the findings prior to undertaking any development works.

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2.4 Consideration for Residential End Use

It is understood that the site will be developed for residential end use with houses, gardens, car parking, access roads, and other associated infrastructure. Consequently, when considering the intended development, the site is considered suitable for assessment using a Level 1 Generic Quantitative Risk Assessment (GQRA).

A GQRA provides details of potential future risks to Human Health (proposed end users) from any contamination which may be identified on site in made ground or natural soils. Therefore, for this human health risk assessment, it is considered that future residents occupying the new residential properties will be subjected to the greatest exposure periods and consequently the most risk. As such, in accordance with current guidance and legislation an end use classification of Residential with homegrown produce has been considered most appropriate for this proposed site development.

3.0 Ground Investigation Fieldwork

3.1 Intrusive Investigation Fieldworks Summary

The ground investigation works undertaken by GEO were completed on 16th September 2026 and the exploratory holes (trial pits) were located across the site to provide general site coverage taking into consideration the location of the former area of buried fuel storage tanks and fuel dispensing forecourt.

The site investigation location plan is provided in Appendix II, and the ground investigation works comprised the following.

- 9 No. Mechanically Excavated Trial Pits (TP01 to TP09) to depths of between 2.00m and 2.50m bgl, accompanied by the recovery of representative soil samples for laboratory screening.
- Site supervision by a suitably qualified and experienced Geo-Environmental Engineer.
- Laboratory chemical screening of soil samples.
- Level 1 Generic Quantitative Risk Assessment (GQRA) to determine potential ground contamination and ground gas risks to the proposed end users.

The investigation fieldworks were undertaken in accordance with BS5930 and Eurocode 7 (Part I and II).

At each exploratory hole location, the surfacing type, made ground, natural ground and groundwater conditions were observed and samples were recovered. Details of the ground conditions are included on the exploratory hole logs which are included in Appendix II together with other relevant ground investigation data.

The results of the chemical laboratory results are provided in Appendix III.

All depths included in the report are in metres below ground level (m bgl), unless stated otherwise.

The ground investigation findings and recommendations are based on current site levels. If as part of the finalised design, site levels are to be reduced, then it would be recommended to complete deeper investigation works at that time to confirm the deeper underlying ground conditions.

4.0 Ground and Groundwater Conditions

4.1 General

The following section provides a summary of the ground conditions encountered across the site during the investigation. Reference should be made to the exploratory hole logs included in Appendix II for detailed descriptions of the strata and groundwater conditions at each individual investigation location.

All depths are reported in metres below ground level (m bgl) unless stated otherwise.

4.1.1 Topsoil

Topsoil was encountered in TP05 to a depth of 0.12mbgl and described as a dark brown sandy silt/clay. Reworked topsoil was encountered in TP08 and TP09 to depths between 0.15m and 0.25mbgl respectively.

4.1.2 Made Ground

Made Ground was encountered within all locations, with exception of TP05, with thicknesses ranging between 0.15m and 2.30mbgl. The deposits generally comprised reworked granular materials consisting of angular to sub-rounded sand and gravel of mixed lithologies, including mudstone, limestone and sandstone, with various inclusions of brick, concrete, asphalt, timber and metal fragments.

Within the footprint of the former fuel filling areas (TP01, TP02, TP03, TP04 and TP06), the Made Ground was deeper and consisted of more concrete and brick fill materials to depths of up to 2.30m. At TP03, a concrete cast cradle structure incorporating an arched chamber and associated void were encountered and are considered representative of the former underground fuel storage tank surround infrastructure, following the tanks being exhumed. TP04 encountered a curved and linear concrete wall structures together with concrete at the base of the excavation and isolated pipework fragments, which is also considered to represent a surround of a former storage tank. Hydrocarbon odours were noted within TP01 at near surface level, and TP06, with black staining and a slight surface sheen observed at 0.70mbgl.

Samples of the Made Ground have been recovered for chemical laboratory analysis to assess the potential risks posed by contaminants associated with the site's historical fuel filling station use and to determine the suitability of soils proposed to remain in-situ beneath the future development. No asbestos-containing materials were identified during the intrusive investigation.

4.1.3 Natural Drift Deposits

Natural drift deposits were encountered beneath either Topsoil or Made Ground across the site and generally comprised cohesive clay deposits with localised granular horizons present. The cohesive deposits were typically described as brown to reddish brown slightly sandy, gravelly and silty clay of soft to stiff consistency. These deposits were encountered to depths of between 0.80m and 2.00mbgl where proven.

Granular deposits comprising sandy gravel and cobbles were encountered beneath the cohesive soils within TP01, TP02, TP03, TP05, TP07 and TP08. These deposits were encountered between 0.95m and 1.90mbgl and extended to the terminal depths of the excavations between 2.10m and 2.30mbgl where proven. The granular deposits were recorded as brown silty fine to medium sand at TP07 and TP08.

The full thickness of the superficial drift sequence was not proven during the investigation works.

4.1.4 Solid (Bedrock) Geology

The solid geology / bedrock deposits were not encountered during this ground investigation.

4.2 Groundwater

Groundwater was not encountered as a persistent groundwater surface during the investigation. Localised seepages were recorded within TP02 at approximately 0.40mbgl, TP03 at approximately 1.70mbgl and TP06 at approximately 0.50mbgl, whilst perched water was observed within TP04 at approximately 2.20mbgl within the tank cradles / surrounds. These seepages were recorded within the Made Ground and are therefore considered representative of localised perched groundwater rather than a natural groundwater surface.

5.0 Laboratory Testing

5.1 Chemical Screening

5.1.1 Contamination Testing for Human Health

To enable the completion of a Level 1 Generic Quantitative Risk Assessment (GQRA) for Human Health, 9 No. samples of made ground (between c.0.10m and c.1.50m bgl), 2 No. samples of the natural drift deposits (between c.1.00m and c.1.20m bgl) and 1 No. sample of topsoil were subjected to analysis at the following UKAS and MCERTS accredited laboratory:

- Chemtech Environmental Testing of Stanley, County Durham.

Potential Contaminants of Concern (PCOC's) have been determined based on the potential for hydrocarbon contamination associated with the former tank and the potential for made ground from an unknown source. The samples were scheduled to the following range of potential contaminants:

- **Inorganic Soil Suite (Human Health Risk Assessment):** Metal (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium and Zinc), Cyanide and Total Organic Carbon.
- **Organic Soil Suite (Human Health Risk Assessment):** Speciated Polycyclic Aromatic Hydrocarbons (PAH – USEPA 16), Petroleum Hydrocarbons (Aliphatic & Aromatic splits), MTBE and BTEX.

In addition, 6 No. samples of made ground were scheduled for asbestos screening to determine the presence of asbestos fibres. No visual evidence of asbestos was noted during the fieldworks.

The full catalogue of soil screening results and test detection limits can be seen in the Chemtech report (ref: 26-11759-01) contained in Appendix III.

Visual and olfactory evidence of organic contamination was identified in TP06 between 0.50 and 0.80mbgl as black staining with an effervescent sheen present and a hydrocarbon odour. A hydrocarbon odour was also noted in TP01 from surface level to 0.40mbgl.

5.1.2. Controlled Waters Risk Assessment

When considering the sites environmental setting (presence of nearby Black Beck watercourse, and underlain by initially a Secondary aquifer), the visual and olfactory evidence of contamination noted during the investigation, and the elevated PAHs encountered on site, selected soil samples have been subjected to leachate screening, along with a single water sample recovered from within a former tank containment cell, have been analysed to enable a risk assessment to be completed for Controlled Waters.

The water sample from TP04 was recovered in 1 litre amber glass bottle, 1 litre plastic bottle and 2 small VOC vials. The samples were screened at the following UKAS and MCERTS accredited laboratory:

- Chemtech Environmental Testing of Stanley, County Durham.

The water sample was subjected to chemical screening for the following range of potential contaminants:

- **Inorganic Water Suite:** Metals (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium and Zinc), Cyanide (total), Hardness, pH, Sulphide and Sulphate.
- **Organic Water Suite (Human Health Risk Assessment):** Speciated Polycyclic Aromatic Hydrocarbons (PAH – USEPA 16), Petroleum Hydrocarbons (Aliphatic & Aromatic splits), BTEX and MTBE.

Soil samples have been selected for leachate analysis to understand the potential for mobile contamination impacting underlying natural soils and the deeper Principal Aquifer contained within the bedrock. Potential Contaminants of Concern (PCOC's) have been determined based on the potential for hydrocarbon contamination associated with the former underground tanks and the potential for made ground from an unknown source. The samples were scheduled to the following range of potential contaminants:

- **Inorganic Leachate Suite (Human Health Risk Assessment):** Metal (Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium and Zinc), Cyanide and Total Organic Carbon.
- **Organic Leachate Suite (Human Health Risk Assessment):** Speciated Polycyclic Aromatic Hydrocarbons (PAH – USEPA 16), Petroleum Hydrocarbons (Aliphatic & Aromatic splits), BTEX and MTBE.

The full catalogue of soil screening results and test detection limits can be seen in the Chemtech report (ref: 26-11759-01) contained in Appendix III.

6.0 Generic Quantitative Risk Assessment (GQRA)

6.1 Methodology for Assessing Risks to Human Health

Within the UK, the current framework for assessing potential ground contamination utilises the Environment Agency's Contaminated Land Exposure Assessment (CLEA) model (dated 2020), and as set out by Land Contamination Risk Management Stages 1 to 4, June 2025 and the Department of the Environment, Farming and Rural Affairs (DEFRA) Contaminated Land Statutory Guidance, dated April 2012. This comprises of using the established pollutant linkage model of *Source – Pathway – Receptor*. For a risk to be present to the proposed end user (*Receptor*) there must be an identified *Source* and a plausible *Pathway*. Where one or more of the links are missing then the risk is negated. In order for the land to be classified as contaminated under Part IIA of the Environmental Protection Act (EPA) 1990 all three elements of the pollutant linkage must be present.

A human health risk assessment can be completed using the contamination levels recorded in the soils by comparing the values against published Generic Assessment Criteria (GAC), such as Land Quality Management (LQM) and Chartered Institute of Environmental Health (CIEH) S4UL Values, CL:AIRE/DEFRA Category 4 Screening Levels (C4SLs), and Atkins ATRISK^{SOIL} Soil Screening Values (SSV's). The guidelines are generally based on the land uses as outlined below.

- *Residential*
(with or without
homegrown produce)
- *Commercial*
- *Allotments*
- *Public Open Space*
(Residential or Park)

It is understood that the proposed development will incorporate a commercial development comprising ambulance station and small business units with associated hardstanding and soft landscaping. Therefore, for the purposes of this basic Human Health ground contamination risk assessment, the maximum site recorded values for the soil samples have been compared to the GACs for an end use classification of Residential with homegrown produce end use, to determine if a potential risk is present to proposed end users. The chemical testing results compared to appropriate guidance levels are contained within Appendix IV.

6.2 Human Health Risk Assessment – Comparison with Guidance Levels

6.2.1 Inorganic Contaminants – Soil

The maximum concentration values for each inorganic analyte have been compared to the most relevant published Generic Assessment Criteria (GAC) as part of the Maximum Value Test. The GACs have been selected using the following guidance documents.

- LQM/CIEH S4UL 2015 (Residential with homegrown produce)
- CL:AIRE/DEFRA Cat 4 Screening Levels C4SL (Residential with home-grown produce)
- Atkins ATRISK Screening Values

As discussed in section 6.1, the contaminant concentrations have been assessed against the appropriate GAC for a residential end use. A summary of the findings can be seen in the Table on the following page.

Based on the results of the risk assessment, there are no exceedances above the threshold values and as such the made ground present does not pose a risk to human health in context of metal and inorganic contamination.

Generic Analytes	Critical concentration (mg/kg)	No. of samples screened	Max. concentration recorded (mg/kg)
Arsenic	37	12	21.50
Cadmium	11	12	<1.1
Chromium III	6	12	31.50
Chromium VI	910	12	0.05
Copper	2400	12	72.30
Lead	200	12	82.50
Mercury	40	12	0.80
Nickel	130	12	30.10
Selenium	250	12	4.50
Zinc	3700	12	102.00
Cyanide	34	12	<1.0

6.2.2 Organic Contaminants – Soil

The maximum concentration values for the organic analytes tested for (i.e. PAH congeners, Petroleum Hydrocarbons, BTEX and MTBE) have been compared to the most relevant and appropriate published guidance values (generic assessment criteria) as part of the Maximum Value Test. The GACs have been selected using the following guidance document.

- LQM/CIEH S4UL 2015 (Residential with homegrown produce)
- EIC/AGS/CL:AIRE GAC 2010 (Residential with consumption of homegrown produce)

Taking in to account the average TOC of the soils on the site, this assessment has been completed utilising a 2.5% SOM. A summary of the findings can be seen in the Table below and on the following page.

PAH Congeners	Critical concentration (mg/kg)	No. of samples screened	Max. concentration recorded (mg/kg)
Acenaphthene	210	12	1.29
Acenaphthylene	170	12	0.22
Anthracene	2,400	12	6.77
Benzo(a)anthracene	7.2	12	22.80 (TP01, TP02)
Benzo(a)pyrene	5	12	21.10 (TP01, TP02)
Benzo(b)fluoranthene	2.6	12	25.10 (TP01 to TP04)
Benzo(ghi)perylene	320	12	9.87
Benzo(k)fluoranthene	77	12	11.80
Chrysene	15	12	20.80 (TP01, TP02)
Dibenzo(ah)anthracene	0.24	12	2.67 (TP01 to TP04)
Fluoranthene	280	12	44.90
Fluorene	170	12	1.41
Indeno(123-cd)pyrene	27	12	17.00
Naphthalene	2.3	12	0.11
Phenanthrene	95	12	15.40
Pyrene	620	12	35.40
Petroleum Hydrocarbons			
Aliphatic EC 5-6	78	12	<0.10
Aliphatic EC >6-8	230	12	0.16
Aliphatic EC >8-10	65	12	0.29
Aliphatic EC >10-12	330	12	9.20
Aliphatic EC >12-16	2,400	12	97.10
Aliphatic EC >16-35	92,000	12	437
Aliphatic EC >35-44	92,000	12	162.00

Petroleum Hydrocarbons (Cont'd)	Critical concentration (mg/kg)	No. of samples screened	Max. concentration recorded (mg/kg)
Aromatic EC 5-7	140	12	<0.010
Aromatic EC >7-8	290	12	<0.010
Aromatic EC >8-10	83	12	<0.010
Aromatic EC >10-12	180	12	7.60
Aromatic EC >12-16	330	12	49.70
Aromatic EC >16-21	540	12	346.00
Aromatic EC >21-35	1,500	12	1,510.00 (TP01)
Aromatic EC >35-44	1,500	12	794.00
Volatile Organic Compounds			
Benzene	0.17	12	<0.001
Toluene	290	12	<0.001
Ethylbenzene	110	12	<0.001
m & p-Xylene	130	12	<0.002
o-Xylene	140	12	<0.002
Petrol Additive			
MTBE	84	12	<0.002

Based on the results of the risk assessment, slightly elevated concentrations of some PAHs and Aromatic EC21-EC35, exceed the assessment criteria values chosen for this site, and as such the made ground below the areas of TP01 to TP04 represents a potential risk to human health where pathways are present post completion of the proposed residential development.

The highest concentrations of PAHs and elevated Petroleum Hydrocarbons appear to be present within the shallow made ground deposits at the locations of TP01, TP02, TP03, TP04, and within deeper made ground within TP04 at 1.50mbgl.

6.2.3 Determination of presence of Asbestos – Soil

In total 6 no. samples of the made ground were subjected to laboratory microscopic analysis to determine the presence of Asbestos Containing Materials (ACMs) in accordance with the methodology within HSG 248.

Of the samples tested, no positive IDs were identified and recorded as NAD (no asbestos detected), i.e. no asbestos was encountered.

The results would suggest that asbestos contamination is not present within the made ground sampled from across the site.

6.2.4 Human Health Risk Assessment – Summary

The following is a summary of the Human Health risk assessment based on a residential end use.

- **Generic Contamination:** None detected
- **Organic Contamination:** Elevated PAHs and Petroleum Hydrocarbons (Aromatic EC21-35)
- **Asbestos Contamination:** None detected

Concentrations of several PAHs exceed the applicable threshold criteria within shallow Made Ground soils, most notably at TP01 and TP02 with exceedances also present within TP03 and TP04. The contaminants of concern comprise Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(a)pyrene and Dibenzo(a,h)anthracene. The distribution and composition of the PAHs are consistent with historical garage and fuel handling activities, with the possible presence of tar-bound asphalt materials at surface and weathered petroleum residues. The principal risk drivers for human health exposure pathways relate to direct soil contact, ingestion and inhalation of soil particles rather than vapour inhalation, given the contamination present.

Therefore, the made ground deposits present locally in the western half of the site (the location of fuel storage and filling activities (TP01 to TP04) are considered to pose a risk to human health and remediation is required.

Typically, remediation required will be in the form of hot spot removal, with the impacted materials and made ground removed from the site and disposed of to a waste facility. Provided that clean imported fill is utilised, it is considered that a stringent clean cover barrier system for the proposed residential gardens would not be required.

However, an appropriate source of clean soils to form the new residential gardens will need to be determined prior to importation. Upon completion of the new imported soils in areas of gardens and soft landscaping, validation will be required to confirm the suitability of the imported clean soils sourced, to ensure that post importation they are fit for purpose.

As such, a Remediation Strategy (RS) has been prepared for this development site, and the contents of this report will need to be agreed with Cumberland Council prior to undertaking / implementing the necessary protection measures, detailing the remedial and validation works required for the site.

6.3 Methodology for Assessing Risks to Controlled Waters

Leachate and groundwater screening has been completed in order to determine the likelihood of mobile contamination and the quality of the groundwater beneath the site and therefore, determine potential risks to the wider environment. Consideration is given to a lack of a consistent deeper groundwater table encountered within the investigation, and the presence of locally perched water within the made ground and granular deposits on the site.

The testing also provides a base line for any future assessments which may be required during construction.

The results of the water screening have been assessed using UK published Generic Assessment Criteria (GAC) for freshwater were possible. Where suitable assessment criteria are not available for environmental receptors, the test results have been compared against assessment criteria for stringent Drinking Water Standards, Test Detection Limits (TDL) or other Environmental Guidelines where appropriate. Further details are provided below:

The GACs have been derived using the following guidance documents.

- EA Environmental Quality Standard (EQS) for Freshwater.
- EU Environmental Quality Standard (EQS) for Freshwater.
- The River Basin Districts Typology, Standard and Groundwater Threshold Values within the Water Framework Directive 2010 (updated values 2014).
- UK Drinking Water Standards taken for Water Supply (Water Quality) Regulations 1989 and 2000.
- World Health Organisation Drinking Water Standards
- Environmental Risk Limits (Netherlands National Institute for Public Health and the Environment).

The results of the analysis and chosen GACs are presented in the Contamination Assessment Sheet (waters & leachate) contained in Appendix IV. Where the results exceed the GAC values, the results are highlighted in yellow. Where exceedances are noted, they do not automatically indicate a significant risk to Controlled Waters, especially where the results are assessed against GAC for drinking water standards as the assessment criteria are very stringent.

6.4 Controlled Waters Risk Assessment – Comparison with Guidance Levels

The water sample was noted to be very cloudy with suspended sediment. This is likely due to disturbance caused during the investigation fieldworks and subsequent sampling. It is likely that the disturbance and release of particulates into the groundwater will significantly increase the contaminant concentrations within the groundwater samples. Therefore, the contaminant concentrations recorded during the chemical screening are likely to represent a worst-case scenario such as during construction or earthworks. It is likely that the contaminant concentrations will attenuate significantly once the ground has settled.

6.4.1 Organic Contaminant Concentrations - Leachate

A total of two leachate tests were completed on selected soil samples of natural materials underlying made ground where visual or olfactory evidence was observed.

- TP01 leachate sample was taken at the base of the pit within natural materials where water seepage was present and hydrocarbon contamination present within shallow made ground soils
- TP06 leachate sample was taken from natural material underlying the stained and odorous strata.

The results have identified that concentrations of BTEX were below the level of detection. The concentrations of Petroleum Hydrocarbons were variable between TP01 and TP06 but consistently elevated in Aliphatic fractions C12 to C35 within the natural material, indicating that contamination is present and historical activities have impacted natural materials beneath the made ground. The hydrocarbon profile is indicative of middle to heavy petroleum hydrocarbons, consistent with diesel-range and/or lubricating oil contamination. The absence of significant lighter hydrocarbon fractions suggests the lack of petrol range organic and therefore the contamination is either attributable to weathered diesel contamination or heavier mineral oils, which would be typical of historical tank and pipe infrastructure leakage when considering the historical fuel storage on the site.

6.4.2 Organic Contaminant Concentrations - Waters

A sample of water was obtained from the base of TP04 within the excavated concrete tank cradle / containment cell.

The sample contained detectable concentrations of several PAHs, including Fluoranthene, Pyrene, Benzo(a)anthracene, Chrysene and Benzo(b)fluoranthene. In contrast, BTEX compounds, MTBE and the majority of the Petroleum Hydrocarbon fractions were either absent or present at low concentrations. The analytical profile is considered characteristic of localised impacts associated with weathered petroleum residues and/or historical garage and forecourt activities rather than an active dissolved fuel plume.

6.4.3 Controlled Waters Risk Assessment – Summary

Based on the Controlled Waters Risk Assessment above, and considering the leachate results within the natural soils, the following contaminants have been identified as exceeding the critical concentration values, and therefore potentially poses a risk to Controlled Waters:

- **Organic Contamination:** Elevated PAHs and Petroleum Hydrocarbons (Aliphatic EC12 to EC44).

The sample location of TP04 is considered potentially unrepresentative of the wider groundwater regime, as the former tank excavations may act as a localised sump collecting perched water and contaminants retained within the historic tank cradle.

Leachate testing indicates that contaminant mobility is generally limited, suggesting a low potential for widespread contaminant migration from the impacted soils. This finding is consistent with the geological sequence for the wider site, which comprises predominantly low permeability silty clay deposits that are anticipated to restrict vertical contaminant migration. Whilst local gravel and cobble bands may provide limited preferential pathways, the available evidence does not demonstrate significant or gross impacts extending beyond the former tank excavation.

Although a Principal Aquifer is present within the underlying bedrock, the combined groundwater and leachate data indicate that contaminant impacts are likely to be localised and attenuated within the overlying superficial deposits.

Accordingly, the risk to Controlled Waters is considered low and likely localised to the vicinity of the former underground tank installation, with no direct evidence currently available to demonstrate that significant impact upon the deep underlying Principal Aquifer is of concern, whereby further investigation or risk assessment would be warranted. Further groundwater monitoring would only need to be considered should previously unidentified contamination be encountered during intrusive work. Remedial action to remove all made ground from the site would result in removal of source of potential contamination and therefore the risk is updated to very low.

6.5 Determination of Concrete Classification (pH and Water-Soluble Sulphate)

Selected samples of made ground and natural soil have been screened to determine their pH and soluble sulphate potential to aid the design of buried concrete. The results of the chemical screening are presented in the Chemtech report (ref: 26-11759-01) contained in Appendix III.

From the results, the following observations can be seen.

- pH values in the soils ranged from 7.5 to 8.8 (neutral to slightly alkali).
- Water Soluble Sulphate (SO₄) levels were recorded as ranging from 35.4mg/l up to 1,530mg/l.

In accordance with BRE Special Digest 1: 2005 the results recorded equate to a Design Sulphate classification of DS-2 (for brownfield land). Consideration is given to the single high concentration recorded within the upper 200mm of soil at TP08 recorded at 1,530mg/l, which is an outlier compared to the remaining site area. Excavation and removal of the 200mm of soil at the location of TP08 would remove the outlier to which the made ground and natural soils would be classified as DS-1. However, if this material is retained on site, buried concrete will require a classification of DS-2.

With respect to the pH levels, the results equate to a neutral to slightly alkali chemical environment which is not considered aggressive with respect to concrete. In view of this, an ACEC classification of AC-1 should be taken where a DS-1 classification is adopted, or AC-2 where a DS-2 classification is adopted.

6.6 Hazardous Ground Gas and Vapour Risk Assessment

The Phase 1 Desktop Study identified no significant current or historical sources of ground gas generation within influencing distance of the site. However, when considering the former underground fuel storage tanks, fuel dispensing activities and associated areas of made ground present within the historical garage and petrol filling station footprint there is a potential source of volatile vapours resulting from residual hydrocarbon contamination in the ground.

Soil and groundwater analytical data indicate that hydrocarbon contamination is predominately characterised by medium to heavy petroleum hydrocarbon fractions (EC12-EC35), together with localised PAH contamination. BTEX compounds, MTBE and lighter hydrocarbon fractions were not identified at concentrations indicating a significant vapour risk. Furthermore, groundwater sampling undertaken within the former tank surround did not identify evidence of a significant dissolved-phase petroleum hydrocarbon plume.

The available data therefore suggests that potential human health risks are associated principally with direct soil contact, incidental ingestion and dermal exposure rather than vapour inhalation.

However, consideration is given that no ground gas or volatile vapour monitoring has been undertaken and former underground fuel infrastructure was historically present on site. In the absence of verification monitoring data, a precautionary approach is considered appropriate. Therefore, it is considered that complete removal of made ground, including concrete tank surrounds, and removal of the natural horizon where olfactory evidence of contamination was observed, would remove the requirement of a vapour resistant barrier to be installed within properties; therefore, in absence of any other source of potential gas generation, the site would be categorised as Characteristic Situation 1 with no gas protection measures required.

According to the information presented in the Phase 1 desk study report, the site is not considered to be at risk from Radon gas and therefore does not require the implementation of Radon protection measures.

7.0 Construction Related Excavations and Off-Site Disposal

During the construction works it is likely that materials will be excavated on site (i.e. future foundations and buried utilities, etc.) that will not be able to be accommodated on site during to space and level constraints, ultimately requiring removal off site.

During the construction works, different materials should be stockpiled separately, and an appropriate waste disposal classification should be determined by the Design Team prior to removal. It may be the case that WAC testing is required to aid the assessment.

Where made ground materials or disturbed natural strata is to be removed, the results of the soil testing undertaken within this report can be used as a preliminary assessment and the anticipated waste disposal facility should be provided with a copy of the results for review. It may be the case that the waste facility requires additional contamination screening to aid the characterisation of the made ground for off-site disposal (i.e. Waste Acceptance Criteria – WAC) and it is recommended that this be confirmed by the design team prior to commencing on site.

In accordance with the WM3 guidance, it is likely that natural strata (providing it is uncontaminated) can be disposed of at an Inert waste landfill, although this will be subject to the completion of appropriate chemical screening and WAC testing to confirm this. The number of samples required for screening will be dependent on the overall volume of material requiring disposal.

During the construction phase, it may be the case that WAC screening is required to aid classification for disposal and it is recommended that all materials are classified prior to excavation and disposal off site.

Conversely, if materials are required to be brought to site to raise site levels or as part of a clean cover system then certification and/or soil testing results should be reviewed by a suitably experienced and qualified geo-environmental engineer to ensure that potentially contaminated materials are not being brought to site.

Any material movements may require a Material Management Plan (MMP) in accordance with CL:AIRE.

8.0 Discussion and Remediation

8.1 Ground and Groundwater Conditions Summary

The findings of this ground investigation have encountered the presence of Made Ground across the site, ranging to a depth of 0.10m across the eastern half of the site, with deeper made ground deposits present in the western half within the footprint of the historical underground storage tanks, with concrete surrounds exposed during the works to a maximum depth of 2.30mbgl. Olfactory evidence of contamination was noted in the surface materials at TP01 and within TP06 at a depth of 0.50mbgl.

Natural drift deposits were encountered beneath either Topsoil or Made Ground across the site and generally comprised cohesive clay deposits with localised granular horizons present. The cohesive deposits were typically described as brown to reddish brown slightly sandy, gravelly and silty clay of soft to stiff consistency. These deposits were encountered to depths of between 0.80m and 2.00mbgl where proven.

Granular deposits comprising sandy gravel and cobbles were encountered beneath the cohesive soils within TP01, TP02, TP03, TP05, TP07 and TP08. These deposits were encountered between 0.95m and 1.90mbgl and extended to the terminal depths of the excavations between 2.10m and 2.30mbgl where proven. The granular deposits were recorded as brown silty fine to medium sand at TP07 and TP08.

Groundwater was not encountered as a persistent groundwater surface during the investigation. Localised seepages were recorded within TP02 at approximately 0.40mbgl, TP03 at approximately 1.70mbgl and TP06 at approximately 0.50mbgl, whilst perched water was observed within TP04 at approximately 2.20mbgl within the tank cradle / surrounds. These seepages were recorded within the Made Ground and are therefore considered representative of localised perched water rather than a natural groundwater surface.

8.2 Ground & Groundwater Contamination

Following the results of the human health contamination risk assessment, elevated concentrations of some PAHs and Petroleum Hydrocarbons have been identified as posing a potential risk to human health with respect to a residential end use. The distribution and composition of the PAHs are consistent with historical garage and fuel handling activities, with the possible presence of tar-bound asphalt materials at surface and weathered petroleum residues. The principal human health exposure pathways relate to direct soil contact, ingestion and inhalation of soil particles rather than volatile vapour inhalation, given the contamination present.

The results of the leachate screening encountered concentrations of BTEX that were below the level of detection. The concentrations of Petroleum Hydrocarbons were variable between TP01 and TP06 but consistently elevated in Aliphatic fractions EC12 to EC44 within the natural material, indicating that contamination is present and historical activities have impacted natural materials beneath the made ground.

The water sample contained detectable concentrations of several PAHs.

Utilising the water and leachate testing to assess risk to controlled waters, BTEX compounds, MTBE and the majority of petroleum hydrocarbon fractions were either absent or present at low concentrations. The analysis is considered characteristic of localised impacts associated with weathered petroleum residues and/or historical garage activities. The absence of significant lighter hydrocarbon fractions suggests either weathered diesel contamination or heavier mineral oils, which would be typical of historical tank and pipe infrastructure leakage when considering historical fuel storage on the site, rather than an active dissolved fuel plume.

Although a Principal Aquifer is present within the underlying bedrock, the combined groundwater and leachate data indicate that contaminant impacts are likely to be localised and attenuated within the overlying superficial deposits

At this stage, no significant or unacceptable risks of potential PFAS contamination were identified by the Phase 1 report.

8.3 Ground Gas & Volatile Vapours

Soil and water analytical data indicate that hydrocarbon contamination is predominately characterised by medium to heavy Petroleum Hydrocarbon fractions (EC12-EC35) together with localised PAH contamination. BTEX compounds, MTBE and lighter hydrocarbon fractions were not identified at concentrations indicating a significant volatile vapour risk. Furthermore, water sampling undertaken within the former tank surround did not identify evidence of significant dissolved-phase petroleum hydrocarbon plume. The available data therefore suggests that potential human health risks are associated principally with direct soil contact, incidental ingestion and dermal exposure rather than volatile vapour inhalation.

However, consideration is given that no ground gas or volatile vapour monitoring has been undertaken and former underground fuel infrastructure was historically present on site. In the absence of verification monitoring data, a precautionary approach is considered appropriate. Therefore, removal of made ground and impacted natural material from the site is recommended in order to achieve a Characteristic Situation 1, whereby no gas / volatile vapour protection measures would be considered necessary. Suitable clean fill material will be required to return the site to formation levels. Any retainment of made ground would require a CS2 categorisation and implementation of a volatile vapour resistant gas membrane in the construction of any new properties on the site.

8.4 Remediation Strategy

The purpose of a Remediation Strategy (RS) is to provide information in relation to the following.

- Identify the most appropriate remediation option(s) for the site based on the findings of the GIR and human health risk assessments such that any identified unacceptable risks can be satisfactorily mitigated
- Provide a methodology for the design team and developer / main contractor on how to implement the remedial works into the overall development design and construction works in accordance with the RS, such that the proposed remedial works do not cause harm to human health or the wider environment
- Identify the validation requirements to verify the remediation works have been successfully completed in accordance with this Remediation Strategy, and to ensure that there is an accurate final record of the land quality, to allow the discharge of any outstanding planning conditions associated with land contamination

The following hazards to receptors which require remediation has been identified:

- Soil Contamination: Elevated PAH and TPH
- Ground Gas and Vapours: Residual risk of volatile vapours to human health

When considering the presence of elevated concentrations of some PAHs, these contaminants will represent an unacceptable level of risk to future end users where exposure pathways are available post completion of the development, i.e. within areas of gardens & soft landscaping and within confined spaces for vapour accumulation.

It is considered that the removal of made ground from the site, including the relict tank surrounds and bases, and removal of the natural horizon of olfactory fuel contamination is undertaken.

Made ground extends to 2.30mbgl within the footprint of historical tank infrastructure, with impacted natural material in the vicinity of TP06. This material is to be excavated and removed from the site and clean imported granular fill utilised to return the site to formation levels.

GEO recommend that any made ground materials excavated on the site are disposed of to an appropriate waste disposal / treatment facility. It is not recommended that made ground material be re-used on the site unless further detailed assessment is undertaken and a Material Management Plan is completed.

Where made ground materials are removed, the works should be witnessed by Geo Environmental Engineering Ltd for validation purposes. The excavated materials would need to be replaced with clean inert materials.

Where imported soils are required, it is recommended that the material is visually inspected and tested at source to confirm suitability. The scope and frequency of testing would be dependent on the volume of material required and source of the imported soil.

It is the responsibility of the Client to collate the following information which will form an important chain of custody and proof of works for the validation report:

- Photographic evidence of earthworks incorporating the removal of contaminated soils.
- Topographical Survey data before and after removal of the soils.
 - This may be used as accompanying evidence for the removal of the made ground materials.
- Off-site disposal tickets (including the chain of custody records) to confirm the appropriate disposal of any contaminated soils.
 - Where soils are to be re-used on a different site, an appropriate Material Management Plan (MMP) should be provided. An MMP is beyond the scope of this report.
- Collated reports for contamination tests on imported soils brought to site to be placed in areas of soft landscaping or private gardens to confirm suitability and that contaminated materials are not inadvertently being brought to site.

8.4.1 Validation of Remediation Works

The remediation works will need to be independently witnessed and checked to ensure that they have been completed to a suitable standard and in accordance with the strategy outlined above.

An experienced Geo-Environmental Engineer should be present during the remediation works at 'key stages' to check that the contaminated soils have been removed. Following removal of the made ground, the formation should comprise natural drift deposits only.

Where the contaminated soils are removed entirely, visual inspection and possible testing of the underlying natural soils by an independent Geo-Environmental Engineer would be required to confirm that the soil is free of anthropogenic material and visual / olfactory evidence of hydrocarbon contamination.

At least c.150mm of topsoil would be required as a planting medium within the proposed gardens and areas of soft landscaping and validation testing would be required to confirm that the topsoil is suitable.

The validation report will include photographic records as evidence for the removal of the former tank surrounds and made ground materials and impacted natural materials identified in TP06.

Any issues should be discussed with the Engineer to agree a suitable solution.

8.4.2 Imported Soils – Laboratory Chemical Screening

Any imported topsoil should be as specified in BS 3882:2007 as 'suitable for their intended purpose'. Any subsoils or other soil types imported to site (e.g. to form a development platform or within drainage runs etc.) should be tested as appropriate to ensure contamination is not inadvertently brought to site.

The scope and frequency of testing would be dependent on the source of the imported material and in line with YALPAG requirements as indicated below:

- Brownfield source: minimum of 6 samples or 1 test per 100m³ of material*.
 - Greenfield source: a minimum of 3 samples or 1 test per 250m³ of material*.
- (* - whichever is greater)

Testing should be undertaken for the following considerations:

- Human Health – to ensure the import materials do not pose a risk to the proposed residential end users.

For the purposes of the Human Health criteria, the soil samples will be compared to the most relevant and appropriate intervention values to determine if a risk is present to the proposed end users based on a CLEA end use classification of Residential with Plant Uptake End Use.

A validation report will be issued upon completion of the remediation works if the Geo-Environmental Engineer is satisfied that the remediation works have been completed to a suitable standard.

It is recommended that samples of the proposed imported soils are recovered and tested at source to confirm acceptability prior to importation.

All topsoil materials brought on to site that are to be used within the areas of soft landscaping should be tested and the results reviewed against the generic assessment criteria (GAC). The sampling and testing frequency should be in accordance with YALPAG guidelines (Verification Requirements for Cover Systems guidance document) and would be dependent on the source of the soil.

8.4.3 Stockpiling, Offsite Disposal and WAC Testing

During the construction works it is likely that materials will be excavated on site (i.e. future foundations and buried utilities, etc.) that will not be able to be accommodated on site during to space and level constraints, ultimately requiring removal off site.

During the construction works different materials should be kept separate, as it may be the case that uncontaminated natural materials can be classified as non-reactive hazardous waste and disposed of as such although this should be confirmed by the receiving Landfill site. A separate assessment will be required for any topsoil (naturally occurring organic materials) that may be encountered as they cannot be classified as inert due to their natural organic content.

Where made ground materials or disturbed natural strata is to be removed, the results of the soil testing undertaken in the previous GIR can be used as a preliminary assessment and the anticipated waste disposal facility should be provided with a copy of the results for review. It may be the case that the waste facility requires additional contamination screening to aid the characterisation of the made ground for off-site disposal (i.e. Waste Acceptance Criteria – WAC) and it is recommended that this be confirmed by the design team prior to commencing on site.

During the construction phase, it may be the case that WAC screening is required to aid classification for disposal, and it is recommended that all materials are classified prior to excavation and disposal off site.

Conversely, if materials are required to be brought to site to raise site levels or as part of a clean cover system then certification and/or soil testing results should be reviewed by a suitably experienced and qualified geo-environmental engineer to ensure that potentially contaminated materials are not being brought to site.

8.5 General Comments

Consideration must be made for variations to occur in the ground conditions between the exploratory hole locations for which GEO holds no responsibility and areas where limited access was available. It is therefore recommended that a “watching brief” and “observational technique” be applied to this site to ensure that if ground conditions appear to vary from those identified within this investigation report, then advice should be sought from a suitably qualified and experienced Engineering Geologist, Geotechnical or Geo-Environmental Engineer.

The recommendations and opinions expressed in this report are based on the strata observed within the exploratory holes, in addition to the results of the site and laboratory tests commissioned by GEO. Consequently, GEO takes no responsibility for conditions that have not been revealed or which occur between them. GEO takes no responsibility for the accuracy of third-party information provided by sub-contract drillers or laboratories.

The conclusions and recommendations presented within this report are considered reasonable based on the available information. However, these cannot be guaranteed to gain regulatory approval. Therefore, the report should be passed to the appropriate regulatory authorities and/ or other key stakeholders including warranty providers in order to seek their approval of the findings prior to undertaking any works on site.

End of Report

Appendix I

- Site Location Plan
- Aerial Image Plan
- Proposed Site Layout Plan
- Exploratory Hole Location Plan

GEO2026-7395: Nursery Road, Beckermat –
Site Location Plan



**GEO2026-7395: Nursery Road, Beckermet –
Aerial Photography Plan**



PLANNING ISSUE

LANDSCAPING PLANTING.

Unless stated otherwise below, in-curtilage landscaping will be undertaken by each respective plot owner.

Private rear gardens: turfed lawns.

Proposed 'Box style' hedging.
Euonymous japonicus 'Jean Hugues';
40-50cm high; planted at rate of 3.5
plants per lin. metre in a single row;
clip after planting.

Native species shrub planting in communal
locations shown.

Shrub planting mix follows:
Lavendula 'Hidcote'.
Euonymous 'Silver Queen'.
Viburnum 'Davidii'.
Prunus lusitanica.
Magnolia stellata.
Geranium 'Johnsons Blue'.
Hedera 'Helix'.
Cotaneaster horizontalis.
Ilex aquifolium.
Azalea Japonica.

Shrub planted areas to be overlaid with
bark once planting is complete.



RETAINING WALLS.
As shown in locations indicated on plan.

Height varies.

Construction to be masonry blockwork
with reinforced concrete core; face with
100 x 38 treated timber battens fixed
vertically & clad with 50 x 22 treated
cedar boards fixed horizontally with
10mm spacings; cap wall off with PCC
tapered copings, size to suit wall
thickness.

A	15/04/26	Minor amendments to road layout in response to HA comments; minor amendments to boundary treatments in response to LPA comments. Lighting bollards, retaining wall specification and Landscape Planting Schedule added.	GB
No.	Date	Revision	Initial

ALPHA DESIGN

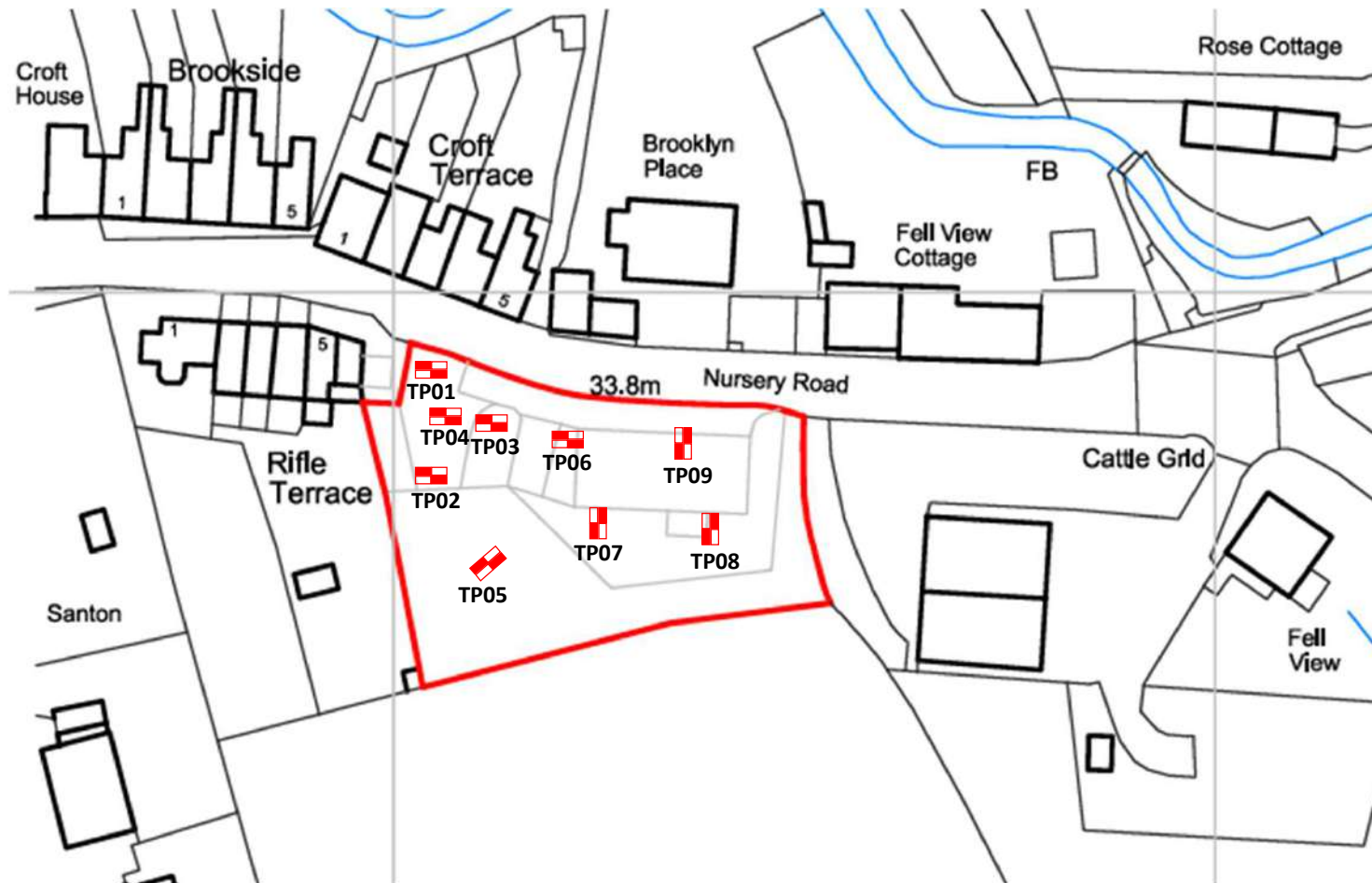
Architectural Services
Member of the Chartered Institute of
Architectural Technologists
Tel: 01900 829199 email: gb@adcumbria.co.uk

Project
LAND AT BECKERMET, CUMBRIA
Client
MR D. WHITFIELD
Drawing
PROPOSED SITE PLAN
Scale 1:200 @ A1 (L) Drawn GB
Checked Date JAN. 2026

Drawing No.
25/02/1072 - 03 a)

This drawing and design is copyright and must not
be reproduced in part or in whole without prior
written consent. Contractors must verify all
dimensions on site before commencing work or
preparing shop drawings.

GEO2026-7395: Nursery Road, Beckermat
Exploratory Hole Location Plan



Legend

 Trial Pit

Website: www.geoenvironmentalengineering.com

Email: info@geoenvironmentalengineering.com

Telephone: 07883 440 186

Appendix II

- Exploratory Hole Logs



Key to exploratory hole symbols and abbreviations

SAMPLE TYPES

ACM - Asbestos sample	AMAL - Amalgamated sample	B - Bulk disturbed sample
BLK - Block sample	C - Core sample	CBR - CBR test sample
D - Disturbed sample	ES - Environmental sample	EW - Environmental water sample
G - Gas sample	J - Jar sample	L - Liner sample
TW - Pushed thin wall sample	U - Undisturbed sample	UT - Undisturbed thin wall sample
W - Water sample	T - Tub sample	JT - Jar and Tub sample

IN-SITU TESTS

HV - Hand shear vane	HV(r) - Hand shear vane residual	PID - Photo ionisation detector
PP - Hand penetrometer	SPT - Standard penetration test	SPT(C) - SPT using cone

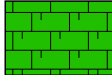
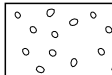
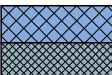
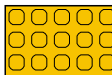
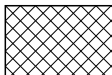
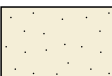
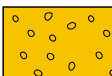
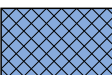
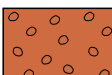
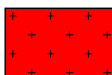
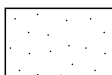
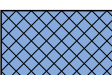
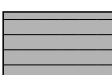
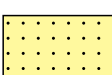
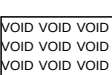
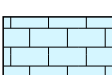
GROUNDWATER

 Groundwater strike	 Groundwater rest level
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ROTARY CORE DETAILS

TCR - Total core recovery (%)	SCR - Solid core recovery (%)	RQD - Rock quality designation (%)
FI - Fracture index	NI - Non-intact core	AZCL - Assumed zone of core loss

LEGEND

 Topsoil	 Clay	 Chalk	 Sand backfill
 Peat	 Silt	 Breccia	 Gravel backfill
 Made ground [cohesive]	 Sand	 Conglomerate	 Arisings
 Concrete	 Gravel	 Metamorphic	 Bentonite
 Wood	 Cobbles	 Igneous	 Concrete
 Brick	 Boulders		 Grout
 Bituminous material	 Mudstone		 Plain pipe
 Gypsum	 Siltstone		
 Coal	 Sandstone		 Slotted pipe
 Void	 Limestone		



Trial Pit

TP01

Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395	Start Date 2026-09-16	End Date 2026-09-16	

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 1			(0.05) 0.05 (0.05) 0.10 (0.05) 0.15		MADE GROUND: Compacted angular fine to coarse limestone, mudstone and asphalt GRAVEL. <i>slight hydrocarbon odour (0.00 - 0.40m)</i>	
		1.00	ES 2			(1.65)		MADE GROUND: Reddish brown angular fine to coarse sandstone GRAVEL. MADE GROUND: Brown fine to coarse SAND. Brown SAND & GRAVEL. Gravel is subangular to rounded fine to coarse of various lithologies.	0.5 1.0 1.5
		2.00	ES 3			1.80 (0.30) 2.10		Brown sandy GRAVEL & COBBLES. Gravel is subangular to rounded fine to coarse of various lithologies.	2.0
								End of Trial Pit at 2.10m	2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.10m TP 5t Tracked Excavator Stable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP01
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.10m TP 5t Tracked Excavator Stable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP02

Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395	Start Date 2026-09-16	End Date 2026-09-16	

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.20	ES 1			(0.20)		MADE GROUND: Compacted angular fine to coarse limestone, mudstone and asphalt GRAVEL intermixed with dark brown organic sandy SILT/CLAY	
		0.50	ES 2			(0.20) (0.20) (0.20) 0.40		MADE GROUND: Reddish brown sandy angular fine to coarse sandstone GRAVEL. Soft becoming firm brown silty CLAY. <i>seepage (0.40m)</i>	0.5 1.0 1.5
						(1.50)			
						1.90		Brown sandy GRAVEL & COBBLES. Gravel is subangular to rounded fine to coarse of various lithologies.	2.0
						(0.40) 2.30			
								End of Trial Pit at 2.30m	2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5 7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.30m TP 5t Tracked Excavator Stable	Logger LD
Checked By: L.D Approved By: C.E Status: FINAL		



Trial Pit

TP02
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.30m TP 5t Tracked Excavator Stable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP03

Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermert	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.10	ES 1			(0.15) 0.15		MADE GROUND: Greyish brown sandy silty angular fin eto coarse GRAVEL. Gravel is mudstone, limestone and rare brick, metal fragments and timber.	
		0.50	ES 2					MADE GROUND: Grey brown sandy subangular to rounded fine to coarse GRAVEL. Gravel is of various natural lithologies mixed with large kerbstones, brick and concrete. East pit face contains cast concrete with inner arch with a 0.30m void within the arch (former tank surrounds).	0.5
		1.00	ES 3			(1.25)			1.0
						1.40		Brown sandy GRAVEL & COBBLES. Gravel is subangular to rounded fine to coarse of various lithologies.	1.5
						(0.60)		seepage (1.70m)	
						2.00		Hard reddish brown silty CLAY recovered as gravel.	2.0
						(0.50)			
						2.50		End of Trial Pit at 2.50m	2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.50m TP 5t Tracked Excavator Unstable	Logger LD
Checked By: L.D Approved By: C.E Status: FINAL		



Trial Pit

TP03
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.50m TP 5t Tracked Excavator Unstable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP03
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.50m TP 5t Tracked Excavator Unstable	Logger LD
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Checked By: L.D Approved By: C.E Status: FINAL
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Trial Pit

TP04
Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395	Start Date 2026-09-16	End Date 2026-09-16	

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.50	ES 1			(0.20) 0.20		MADE GROUND: Grass over reddish brown silty sandy angular GRAVEL containing sandstone, mudstone, brick and rare asphalt and concrete.	
								MADE GROUND: Grey and brown clayey sandy angular to rounded fine to coarse GRAVEL & COBBLES containing various natural lithologies mixed with whole bricks, concrete fragments with rare metal pipework segments. West pit face contained a curved concrete wall. North pit face contained a straight concrete wall. Concrete at base of pit.	0.5
		1.50	ES 2			(2.10)			1.0
		2.20	EW 3						1.5
									2.0
						2.30		Seepage (perched water)	2.5
								End of Trial Pit at 2.30m	3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.30m TP 5t Tracked Excavator Unstable	Logger LD
Checked By: L.D Approved By: C.E Status: FINAL		



Trial Pit

TP04
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.30m TP 5t Tracked Excavator Unstable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP04
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.30m TP 5t Tracked Excavator Unstable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP05
Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395	Start Date 2026-09-16	End Date 2026-09-16	

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.10	ES 1			(0.12)		Grass over dark brown slightly sandy SILT/CLAY (TOPSOIL)	
		0.50	ES 2			(1.48)		Soft becoming firm reddish brown slightly sandy slightly gravelly silty CLAY. Gravel is subangular to rounded fine to coarse mudstone and sandstone	0.5
						1.60		Brown sandy GRAVEL & COBBLES. Gravel is subangular to rounded fine to coarse of various lithologies.	1.0
						(0.50)			1.5
						2.10		End of Trial Pit at 2.10m	2.0
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.10m TP 5t Tracked Excavator Stable	Logger LD
Checked By: L.D Approved By: C.E Status: FINAL		



Trial Pit

TP05
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermet	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.10m TP 5t Tracked Excavator Stable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP06

Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395	Start Date 2026-09-16	End Date 2026-09-16	

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.10	ES 1			(0.30)		MADE GROUND: Grass over dark brown clayey angular to subrounded fine to coarse GRAVEL containing brick, mudstone and various natural lithologies.	
						0.30			
						(0.20)			
						0.50		MADE GROUND: Soft brown silty CLAY (Reworked)	0.5
		0.70	ES 2			(0.30)		Soft dark grey slightly gravelly slightly sandy CLAY. Black staining and slight efferecent sheen present. Hydrocarbon odour present.	
						0.80		seepage (0.50m)	
								Soft becoming firm slightly sandy silty CLAY.	1.0
		1.20	ES 3			(1.20)			1.5
						2.00			2.0
								End of Trial Pit at 2.00m	
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.00m TP 5t Tracked Excavator Unstable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP06
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.00m TP 5t Tracked Excavator Unstable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP07
Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermert	Project No. GEO2026-7395	Start Date 2026-09-16	End Date 2026-09-16	

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.10	ES 1			(0.15)		MADE GROUND: Grey and brown slightly sandy angular fine to coarse GRAVEL of concrete, mudstone and limestone. Broken and degraded concrete present at surface at pit's southern extents.	
						0.15			
						(0.25)			
						0.40		Firm reddish brown silty gravelly CLAY. Gravel is fine to medium subangular to rounded mudstone, sandstone.	0.5
		0.50	ES 2			(0.60)		Soft becoming firm slightly sandy very silty CLAY.	
						1.00		Brown sandy GRAVEL & COBBLES. Gravel is subangular to rounded fine to coarse of various lithologies.	1.0
						(0.50)			
						1.50		Brown silty fine to medium SAND.	1.5
						(0.50)			
						2.00			
								End of Trial Pit at 2.00m	2.0
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.00m TP 5t Tracked Excavator Stable	Logger LD
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Checked By: L.D Approved By: C.E Status: FINAL
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Trial Pit

TP07
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.00m TP 5t Tracked Excavator Stable	Logger LD

Checked By: L.D Approved By: C.E Status: FINAL



Trial Pit

TP08
Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermert	Project No. GEO2026-7395	Start Date 2026-09-16	End Date 2026-09-16	

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.10	ES 1			(0.15)		MADE GROUND: Grass over dark brown sandy clayey angular fine to coarse GRAVEL including concrete, limestone and mudstone.	
						0.15		Stiff brown slightly sandy very silty CLAY.	
		0.50	ES 2			(0.80)			0.5
						0.95		Brown sandy GRAVEL & COBBLES. Gravel is subangular to rounded fine to coarse of various lithologies.	1.0
						(0.75)			1.5
						1.70		Brown silty fine to medium SAND.	
						(0.40)			2.0
						2.10		End of Trial Pit at 2.10m	
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.10m TP 5t Tracked Excavator Stable	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL	



Trial Pit

TP08
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.10m Stable	TP 5t Tracked Excavator	Logger LD
	Checked By: L.D Approved By: C.E Status: FINAL		



Trial Pit

TP09
Sheet 1 of 1

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermat	Project No. GEO2026-7395	Start Date 2026-09-16	End Date 2026-09-16	

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Inst/ Backfill	Water Levels	Samples and Tests			Level (m)	Depth (m) (thickness)	Strata		
		Depth (m)	Type/ Ref	Results			Legend	Description	
		0.10	ES 1			(0.25)		Dark brown slightly gravelly SILT/CLAY.	
		0.50	ES 2			0.25		Firm becoming stiff reddish brown sandy very silty CLAY.	0.5
						(1.75)			1.0
									1.5
						2.00		End of Trial Pit at 2.00m	2.0
									2.5
									3.0
									3.5
									4.0
									4.5
									5.0
									5.5
									6.0
									6.5
									7.0

Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.00m TP 5t Tracked Excavator Stable	Logger LD
Checked By: L.D Approved By: C.E Status: FINAL		



Trial Pit

TP09
PHOTO PAGE

Hole Type TP	Easting	Northing	Ground Level (m)	Scale 1:35
Project Name Land at Nursery Road, Beckermert	Project No. GEO2026-7395		Start Date 2026-09-16	End Date 2026-09-16

Client David Whitfield	Consultant GEO Environmental Engineering	Contractor
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Remarks	Method, Plant, Stability, Dimensions 0.00 - 2.00m Stable	TP 5t Tracked Excavator	Logger LD
Checked By: L.D Approved By: C.E Status: FINAL			

Appendix III

■ Laboratory Test Results

ANALYTICAL TEST REPORT

Report Number 26-11759, issue number 1

Contract name: Nursery Road, Beckermert

Client reference: GEO2026-7395

Clients name: Geo Environmental Engineering

Clients address: Geo Environmental Engineering
NW Office
31 Casshow Way
Cockermouth
Cumbria CA13 9PL

Samples received: 22/09/2026

Analysis started: 22/09/2026

Analysis completed: 01/10/2026

Report issued: 01/10/2026

Key

U UKAS accredited test

M MCERTS & UKAS accredited test

(B) Analysis performed at Southampton Site

I/S Insufficient sample to carry out test

U/S Sample not suitable for testing

NAD No Asbestos Detected

Full key available on Information page



Approved by: Kamila Karas
Senior Technician

SAMPLE INFORMATION

MCERTS (Soils):

Soil descriptions are only intended to provide a log of sample matrices with respect to MCERTS validation. They are not intended as full geological descriptions. MCERTS accreditation applies for sand, clay and loam/topsoil, or combinations of these whether these are derived from naturally occurring soils or from made ground, as long as these materials constitute the major part of the sample. Other materials such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.
% Moisture reported as MCERTS drying at 30°C

Lab ref	Sample ID	Depth (m)	Sample description	Material removed	% Removed	% Moisture
133551	TP01	0.20 - 0.20	Brown Sandy Loam with Gravel.	-	-	5.9
133552	TP01	1.00 - 1.00	Brown Sandy Loam with Gravel.	-	-	1.8
133553	TP01	2.00 - 2.00	-	-	-	-
133554	TP02	0.20 - 0.20	Brown Sandy Loam with Gravel and Vegetation.	-	-	9.6
133555	TP02	0.50 - 0.50	-	-	-	-
133556	TP03	0.10 - 0.10	-	-	-	-
133557	TP03	0.50 - 0.50	Brown Sandy Loam with Gravel and Vegetation.	-	-	8.1
133558	TP03	1.00 - 1.00	-	-	-	-
133559	TP04	0.50 - 0.50	Brown Sandy Loam with Gravel and Vegetation.	-	-	6.3
133560	TP04	1.50 - 1.50	Brown Sandy Loamy Clay with Gravel.	-	-	7.4
133562	TP05	0.10 - 0.10	Brown Sandy Loamy Clay with Gravel and Vegetation.	-	-	26.6
133563	TP06	0.70 - 0.70	Brown Sandy Loamy Clay with Gravel.	-	-	17.9
133564	TP06	1.20 - 1.20	Brown Sandy Loamy Clay with Gravel.	-	-	15.5
133565	TP07	0.10 - 0.10	Brown Sandy Loamy Clay with Gravel.	-	-	8.7
133566	TP08	0.10 - 0.10	Brown Sandy Loamy Clay with Gravel.	-	-	12.7
133567	TP09	0.20 - 0.20	Brown Sandy Loamy Clay with Gravel.	-	-	13.5

SOILS

Lab Number					133551	133552	133554	133557	133559
Sample ID					TP01	TP01	TP02	TP03	TP04
Depth (m)					0.20 - 0.20	1.00 - 1.00	0.20 - 0.20	0.50 - 0.50	0.50 - 0.50
Sampling Date					16/09/2026	16/09/2026	16/09/2026	16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units					
Asbestos									
Asbestos Identification	SUBCO N	SU	0	-	NAD	n/t	NAD	NAD	NAD
Metals									
Water Soluble Sulphate	CE061	M	20	mg/kg	191	42.3	43.3	88.5	290
Arsenic	CE264	M	2.3	mg/kg	7.7	21.5	9.6	17.4	20.6
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1
Copper	CE264	M	1.2	mg/kg	46.1	28.1	24.3	31.6	28.8
Lead	CE264	U	2.4	mg/kg	82.5	14.6	10.6	26.1	25.1
Mercury	CE264	M	0.6	mg/kg	< 0.6	0.6	< 0.6	< 0.6	< 0.6
Nickel	CE264	M	1.6	mg/kg	10.6	30.1	13.7	27.3	26.6
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	2.4	mg/kg	83.6	54.3	54.4	85.9	82.8
Colourimetric									
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040	< 0.040	0.050
Total Cyanide	CE077	N	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chromium III	CE208	N	2	mg/kg	15.1	30.9	20.1	30.5	29.8
Combustion									
Moisture Content	CE001	N	0.1	%	5.9	1.8	9.6	8.1	6.3
Total Organic Carbon	CE197	M	0.1	%	3.30	0.29	3.55	0.58	0.66
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	0.092	< 0.016	0.108	0.019	0.026
Acenaphthylene	CE087	M	0.015	mg/kg	0.220	< 0.015	0.148	< 0.015	0.049
Acenaphthene	CE087	M	0.013	mg/kg	1.29	0.014	1.26	0.131	0.091
Fluorene	CE087	U	0.013	mg/kg	1.41	0.014	1.21	0.118	0.078
Phenanthrene	CE087	M	0.014	mg/kg	15.4	0.131	14.2	1.46	1.05
Anthracene	CE087	U	0.017	mg/kg	6.77	0.061	4.94	0.508	0.388
Fluoranthene	CE087	M	0.017	mg/kg	44.9	0.517	31.8	4.87	4.22
Pyrene	CE087	M	0.016	mg/kg	35.4	0.434	24.0	3.93	3.57
Benzo(a)anthracene	CE087	U	0.012	mg/kg	22.8	0.325	17.3	2.91	2.42
Chrysene	CE087	M	0.028	mg/kg	20.8	0.273	15.5	2.37	2.43
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	25.1	0.430	16.8	3.34	3.05

SOILS

Lab Number					133551	133552	133554	133557	133559
Sample ID					TP01	TP01	TP02	TP03	TP04
Depth (m)					0.20 - 0.20	1.00 - 1.00	0.20 - 0.20	0.50 - 0.50	0.50 - 0.50
Sampling Date					16/09/2026	16/09/2026	16/09/2026	16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units					
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	11.8	0.142	7.18	1.49	1.23
Benzo(a)pyrene	CE087	U	0.019	mg/kg	21.1	0.297	12.9	3.08	2.59
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	17.0	0.273	11.4	2.69	2.73
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	2.67	0.057	1.75	0.506	0.454
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	9.87	0.225	6.81	1.92	1.68
Total PAH(16)	CE087	N	0.28	mg/kg	237	3.19	167	29.3	26.1
BTEX									
Benzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes	CE267	N	0.004	mg/kg	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
MTBE	CE267	N	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Total BTEX	CE267	N	0.007	mg/kg	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
m,p-Xylene	CE267	U	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
oXylenes	CE267	U	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C10-C12 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	9.2	< 2.5	< 2.5	< 2.5	< 2.5
>C12-C16 Aliphatic (EH_CU_1D_AL)	CE286	N	4.3	mg/kg	97.1	< 4.3	< 4.3	< 4.3	< 4.3
>C16-C21 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	125	< 2.5	< 2.5	< 2.5	< 2.5
>C21-C35 Aliphatic (EH_CU_1D_AL)	CE286	N	5.2	mg/kg	250	< 5.2	63.4	14.4	83.0
>C35-C44 Aliphatic (EH_CU_1D_AL)	CE286	N	2.6	mg/kg	162	< 2.6	51.0	9.2	131
>C10-C12 Aromatic (EH_CU_1D_AR)	CE286	N	5	mg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
>C12-C16 Aromatic (EH_CU_1D_AR)	CE286	N	5.5	mg/kg	49.7	< 5.5	< 5.5	< 5.5	< 5.5
>C16-C21 Aromatic (EH_CU_1D_AR)	CE286	N	4.5	mg/kg	346	< 4.5	13.6	8.1	< 4.5
>C21-C35 Aromatic (EH_CU_1D_AR)	CE286	N	11	mg/kg	1510	< 11.0	208	76.6	275

SOILS

Lab Number					133551	133552	133554	133557	133559
Sample ID					TP01	TP01	TP02	TP03	TP04
Depth (m)					0.20 - 0.20	1.00 - 1.00	0.20 - 0.20	0.50 - 0.50	0.50 - 0.50
Sampling Date					16/09/2026	16/09/2026	16/09/2026	16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units					
>C35-C44 Aromatic (EH_CU_1D_AR)	CE286	N	5.2	mg/kg	794	5.8	292	60.9	548
>C5-C44 Total (EH_CU+HS_1D_Total)	CE286	N	21.4	mg/kg	3340	22.3	631	170	1040
Wet Chem									
pH	CE004	M	0.1	pH units	8.4	8.7	8.2	8.2	8.4

SOILS

Lab Number					133560	133562	133563	133564	133565
Sample ID					TP04	TP05	TP06	TP06	TP07
Depth (m)					1.50 - 1.50	0.10 - 0.10	0.70 - 0.70	1.20 - 1.20	0.10 - 0.10
Sampling Date					16/09/2026	16/09/2026	16/09/2026	16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units					
Asbestos									
Asbestos Identification	SUBCO N	SU	0	-	n/t	NAD	n/t	n/t	NAD
Metals									
Water Soluble Sulphate	CE061	M	20	mg/kg	74.7	35.4	166	54.1	184
Arsenic	CE264	M	2.3	mg/kg	8.4	9.3	13.3	5.7	12.7
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1
Copper	CE264	M	1.2	mg/kg	15.2	23.9	35.7	16.9	18.7
Lead	CE264	U	2.4	mg/kg	12.4	38.3	60.6	9.8	10.1
Mercury	CE264	M	0.6	mg/kg	< 0.6	0.8	< 0.6	< 0.6	< 0.6
Nickel	CE264	M	1.6	mg/kg	12.4	15.6	21.8	19.5	23.1
Selenium	CE264	M	3	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Zinc	CE264	M	2.4	mg/kg	58.0	102	73.0	43.6	36.4
Colourimetric									
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Total Cyanide	CE077	N	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Chromium III	CE208	N	2	mg/kg	18.1	23.0	31.5	25.7	23.2
Combustion									
Moisture Content	CE001	N	0.1	%	7.4	26.6	17.9	15.5	8.7
Total Organic Carbon	CE197	M	0.1	%	1.11	4.87	3.28	0.79	0.28
Polyaromatic hydrocarbons									
Naphthalene	CE087	M	0.016	mg/kg	0.052	< 0.016	< 0.016	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015
Acenaphthene	CE087	M	0.013	mg/kg	0.127	< 0.013	< 0.013	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	0.116	< 0.013	0.039	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	1.41	0.037	0.295	< 0.014	< 0.014
Anthracene	CE087	U	0.017	mg/kg	0.497	< 0.017	< 0.017	< 0.017	< 0.017
Fluoranthene	CE087	M	0.017	mg/kg	4.42	0.105	0.605	< 0.017	< 0.017
Pyrene	CE087	M	0.016	mg/kg	3.77	0.087	0.528	< 0.016	< 0.016
Benzo(a)anthracene	CE087	U	0.012	mg/kg	2.72	0.064	0.300	< 0.012	< 0.012
Chrysene	CE087	M	0.028	mg/kg	2.38	0.058	0.291	< 0.028	< 0.028
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	3.47	0.071	0.381	< 0.020	< 0.020

SOILS

Lab Number					133560	133562	133563	133564	133565
Sample ID					TP04	TP05	TP06	TP06	TP07
Depth (m)					1.50 - 1.50	0.10 - 0.10	0.70 - 0.70	1.20 - 1.20	0.10 - 0.10
Sampling Date					16/09/2026	16/09/2026	16/09/2026	16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units					
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	1.48	0.031	0.151	< 0.025	< 0.025
Benzo(a)pyrene	CE087	U	0.019	mg/kg	2.90	0.052	0.307	< 0.019	< 0.019
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	2.76	0.045	0.291	< 0.019	< 0.019
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	0.524	< 0.017	0.048	< 0.017	< 0.017
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	1.81	0.036	0.192	< 0.019	< 0.019
Total PAH(16)	CE087	N	0.28	mg/kg	28.4	0.585	3.43	< 0.280	< 0.280
BTEX									
Benzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Toluene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Ethylbenzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
Xylenes	CE267	N	0.004	mg/kg	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
MTBE	CE267	N	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Total BTEX	CE267	N	0.007	mg/kg	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
m,p-Xylene	CE267	U	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
oXylenes	CE267	U	0.002	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002
Total Petroleum Hydrocarbons									
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	0.16	< 0.10	< 0.10
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10	0.29	< 0.10	< 0.10
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
>C10-C12 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
>C12-C16 Aliphatic (EH_CU_1D_AL)	CE286	N	4.3	mg/kg	< 4.3	< 4.3	23.0	< 4.3	< 4.3
>C16-C21 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	< 2.5	< 2.5	162	< 2.5	< 2.5
>C21-C35 Aliphatic (EH_CU_1D_AL)	CE286	N	5.2	mg/kg	15.2	< 5.2	275	< 5.2	< 5.2
>C35-C44 Aliphatic (EH_CU_1D_AL)	CE286	N	2.6	mg/kg	19.6	< 2.6	14.1	< 2.6	< 2.6
>C10-C12 Aromatic (EH_CU_1D_AR)	CE286	N	5	mg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
>C12-C16 Aromatic (EH_CU_1D_AR)	CE286	N	5.5	mg/kg	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5
>C16-C21 Aromatic (EH_CU_1D_AR)	CE286	N	4.5	mg/kg	4.6	< 4.5	117	< 4.5	< 4.5
>C21-C35 Aromatic (EH_CU_1D_AR)	CE286	N	11	mg/kg	104	< 11.0	314	< 11.0	< 11.0

SOILS

Lab Number					133560	133562	133563	133564	133565
Sample ID					TP04	TP05	TP06	TP06	TP07
Depth (m)					1.50 - 1.50	0.10 - 0.10	0.70 - 0.70	1.20 - 1.20	0.10 - 0.10
Sampling Date					16/09/2026	16/09/2026	16/09/2026	16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units					
>C35-C44 Aromatic (EH_CU_1D_AR)	CE286	N	5.2	mg/kg	172	< 5.2	31.2	< 5.2	< 5.2
>C5-C44 Total (EH_CU+HS_1D_Total)	CE286	N	21.4	mg/kg	318	< 21.4	942	< 21.4	< 21.4
Wet Chem									
pH	CE004	M	0.1	pH units	8.7	7.6	7.5	8.8	8.3

SOILS

Lab Number					133566	133567
Sample ID					TP08	TP09
Depth (m)					0.10 - 0.10	0.20 - 0.20
Sampling Date					16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units		
Asbestos						
Asbestos Identification	SUBCO N	SU	0	-	n/t	n/t
Metals						
Water Soluble Sulphate	CE061	M	20	mg/kg	1530	278
Arsenic	CE264	M	2.3	mg/kg	8.2	8.6
Cadmium	CE264	M	1.1	mg/kg	< 1.1	< 1.1
Copper	CE264	M	1.2	mg/kg	72.3	30.9
Lead	CE264	U	2.4	mg/kg	< 2.4	20.9
Mercury	CE264	M	0.6	mg/kg	< 0.6	< 0.6
Nickel	CE264	M	1.6	mg/kg	7.1	21.6
Selenium	CE264	M	3	mg/kg	4.5	< 3.0
Zinc	CE264	M	2.4	mg/kg	68.3	80.4
Colourimetric						
Water Soluble Chromium VI	CE263	N	0.04	mg/kg	< 0.040	< 0.040
Total Cyanide	CE077	N	1	mg/kg	< 1.0	< 1.0
Chromium III	CE208	N	2	mg/kg	14.2	21.8
Combustion						
Moisture Content	CE001	N	0.1	%	12.7	13.5
Total Organic Carbon	CE197	M	0.1	%	1.25	1.03
Polyaromatic hydrocarbons						
Naphthalene	CE087	M	0.016	mg/kg	< 0.016	< 0.016
Acenaphthylene	CE087	M	0.015	mg/kg	< 0.015	0.015
Acenaphthene	CE087	M	0.013	mg/kg	< 0.013	< 0.013
Fluorene	CE087	U	0.013	mg/kg	< 0.013	< 0.013
Phenanthrene	CE087	M	0.014	mg/kg	0.073	0.117
Anthracene	CE087	U	0.017	mg/kg	< 0.017	0.037
Fluoranthene	CE087	M	0.017	mg/kg	0.112	0.407
Pyrene	CE087	M	0.016	mg/kg	0.090	0.345
Benzo(a)anthracene	CE087	U	0.012	mg/kg	0.049	0.236
Chrysene	CE087	M	0.028	mg/kg	0.051	0.203
Benzo(b)fluoranthene	CE087	M	0.02	mg/kg	0.083	0.368

SOILS

Lab Number					133566	133567
Sample ID					TP08	TP09
Depth (m)					0.10 - 0.10	0.20 - 0.20
Sampling Date					16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units		
Benzo(k)fluoranthene	CE087	M	0.025	mg/kg	0.027	0.110
Benzo(a)pyrene	CE087	U	0.019	mg/kg	0.045	0.233
Indeno(1,2,3-cd)pyrene	CE087	M	0.019	mg/kg	0.049	0.204
Dibenzo(a,h)anthracene	CE087	M	0.017	mg/kg	< 0.017	0.044
Benzo(g,h,i)perylene	CE087	M	0.019	mg/kg	0.046	0.163
Total PAH(16)	CE087	N	0.28	mg/kg	0.624	2.48
BTEX						
Benzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001
Toluene	CE267	U	0.001	mg/kg	< 0.001	< 0.001
Ethylbenzene	CE267	U	0.001	mg/kg	< 0.001	< 0.001
Xylenes	CE267	N	0.004	mg/kg	< 0.004	< 0.004
MTBE	CE267	N	0.002	mg/kg	< 0.002	< 0.002
Total BTEX	CE267	N	0.007	mg/kg	< 0.007	< 0.007
m,p-Xylene	CE267	U	0.002	mg/kg	< 0.002	< 0.002
oXylenes	CE267	U	0.002	mg/kg	< 0.002	< 0.002
Total Petroleum Hydrocarbons						
>C5-C6 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10
>C6-C8 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10
>C8-C10 Aliphatic (HS_1D_AL)	CE267	N	0.1	mg/kg	< 0.10	< 0.10
>C5-C7 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010
>C7-C8 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010
>C8-C10 Aromatic (HS_1D_AR)	CE267	N	0.01	mg/kg	< 0.010	< 0.010
>C10-C12 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	< 2.5	< 2.5
>C12-C16 Aliphatic (EH_CU_1D_AL)	CE286	N	4.3	mg/kg	< 4.3	< 4.3
>C16-C21 Aliphatic (EH_CU_1D_AL)	CE286	N	2.5	mg/kg	< 2.5	< 2.5
>C21-C35 Aliphatic (EH_CU_1D_AL)	CE286	N	5.2	mg/kg	197	< 5.2
>C35-C44 Aliphatic (EH_CU_1D_AL)	CE286	N	2.6	mg/kg	3.0	< 2.6
>C10-C12 Aromatic (EH_CU_1D_AR)	CE286	N	5	mg/kg	7.6	< 5.0
>C12-C16 Aromatic (EH_CU_1D_AR)	CE286	N	5.5	mg/kg	32.2	< 5.5
>C16-C21 Aromatic (EH_CU_1D_AR)	CE286	N	4.5	mg/kg	68.9	< 4.5
>C21-C35 Aromatic (EH_CU_1D_AR)	CE286	N	11	mg/kg	296	< 11.0

SOILS

Lab Number					133566	133567
Sample ID					TP08	TP09
Depth (m)					0.10 - 0.10	0.20 - 0.20
Sampling Date					16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units		
>C35-C44 Aromatic (EH_CU_1D_AR)	CE286	N	5.2	mg/kg	69.0	< 5.2
>C5-C44 Total (EH_CU+HS_1D_Total)	CE286	N	21.4	mg/kg	676	< 21.4
Wet Chem						
pH	CE004	M	0.1	pH units	7.9	8.0

WATER

Lab Number					133561
Sample ID					TP04
Depth (m)					2.20 - 2.20
Sampling Date					16/09/2026
Test	Method	Accred	LoD	Units	
Polyaromatic hydrocarbons					
Naphthalene	CE087	N	0.1	µg/l	< 0.10
Acenaphthylene	CE087	N	0.1	µg/l	< 0.10
Acenaphthene	CE087	N	0.1	µg/l	1.16
Fluorene	CE087	N	0.1	µg/l	0.43
Phenanthrene	CE087	N	0.1	µg/l	3.06
Anthracene	CE087	N	0.1	µg/l	1.01
Fluoranthene	CE087	N	0.1	µg/l	7.92
Pyrene	CE087	N	0.1	µg/l	6.98
Benzo(a)anthracene	CE087	N	0.1	µg/l	4.15
Chrysene	CE087	N	0.1	µg/l	3.79
Benzo(b)fluoranthene	CE087	N	0.1	µg/l	5.72
Benzo(k)fluoranthene	CE087	N	0.1	µg/l	2.13
Benzo(a)pyrene	CE087	N	0.1	µg/l	5.08
Indeno(1,2,3-cd)pyrene	CE087	N	0.1	µg/l	2.75
Dibenzo(a,h)anthracene	CE087	N	0.1	µg/l	0.66
Benzo(g,h,i)perylene	CE087	N	0.1	µg/l	2.02
Total PAH(16)	CE087	N	1.6	µg/l	46.8
BTEX					
Benzene	CE266	U	1	µg/l	< 1.0
Toluene	CE266	U	1	µg/l	< 1.0
Ethylbenzene	CE266	U	1	µg/l	< 1.0
MTBE	CE266	U	1	µg/l	< 1.0
m,p-Xylene	CE266	U	1	µg/l	< 1.0
oXylenes	CE266	U	1	µg/l	10.1
Total Petroleum Hydrocarbons					
>C5-C6 Aliphatic (HS_1D_AL)	CE266	N	1	µg/l	< 1.00
>C6-C8 Aliphatic (HS_1D_AL)	CE266	N	1	µg/l	< 1.00
>C8-C10 Aliphatic (HS_1D_AL)	CE266	N	1	µg/l	2.30
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	34.5
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	< 1.0

WATER

Lab Number					133561
Sample ID					TP04
Depth (m)					2.20 - 2.20
Sampling Date					16/09/2026
Test	Method	Accred	LoD	Units	
>C16-C35 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	< 1.0
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	4.0
>C5-C7 Aromatic (HS_1D_AR)	CE266	N	1	µg/l	< 1.00
>C7-C8 Aromatic (HS_1D_AR)	CE266	N	1	µg/l	< 1.00
>C8-C10 Aromatic (HS_1D_AR)	CE266	N	1	µg/l	10.1
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	< 1.0
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	7.5
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	3.5
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	< 1.0
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	< 1.0

LEACHATE

Lab Number					133553	133564
Sample ID					TP01	TP06
Depth (m)					2.00 - 2.00	1.20 - 1.20
Sampling Date					16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units		
Polyaromatic hydrocarbons						
Naphthalene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Acenaphthylene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Acenaphthene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Fluorene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Phenanthrene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Anthracene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Fluoranthene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Pyrene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Benzo(a)anthracene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Chrysene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Benzo(b)fluoranthene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Benzo(k)fluoranthene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Benzo(a)pyrene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Dibenzo(a,h)anthracene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Benzo(g,h,i)perylene	CE051	N	0.1	µg/l	< 0.10	< 0.10
Total PAH(16)	CE051	N	1.6	µg/l	< 1.60	< 1.60
BTEX						
Benzene	CE266	U	1	µg/l	< 1.00	< 1.00
Toluene	CE266	U	1	µg/l	< 1.00	< 1.00
Ethylbenzene	CE266	U	1	µg/l	< 1.00	< 1.00
Xylenes	CE266	U	1	µg/l	< 1.00	< 1.00
MTBE	CE266	U	1	µg/l	< 1.00	< 1.00
m,p-Xylene	CE266	U	1	µg/l	< 1.00	< 1.00
oXylenes	CE266	U	1	µg/l	< 1.00	< 1.00
Total Petroleum Hydrocarbons						
>C5-C6 Aliphatic (HS_1D_AL)	CE266	N	1	µg/l	< 1.00	< 1.00
>C6-C8 Aliphatic (HS_1D_AL)	CE266	N	1	µg/l	< 1.00	< 1.00
>C8-C10 Aliphatic (HS_1D_AL)	CE266	N	1	µg/l	< 1.00	< 1.00
>C10-C12 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	< 1.0	< 1.0

LEACHATE

Lab Number					133553	133564
Sample ID					TP01	TP06
Depth (m)					2.00 - 2.00	1.20 - 1.20
Sampling Date					16/09/2026	16/09/2026
Test	Method	Accred	LoD	Units		
>C12-C16 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	102	41.0
>C16-C21 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	51.0	26.0
>C21-C35 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	30.0	46.0
>C35-C44 Aliphatic (EH_2D_AL)	CE250	N	1	µg/l	< 1.0	13.0
>C5-C7 Aromatic (HS_1D_AR)	CE266	N	1	µg/l	< 1.00	< 1.00
>C7-C8 Aromatic (HS_1D_AR)	CE266	N	1	µg/l	< 1.00	< 1.00
>C8-C10 Aromatic (HS_1D_AR)	CE266	N	1	µg/l	< 1.00	< 1.00
>C10-C12 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	< 1.0	< 1.0
>C12-C16 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	6.0	< 1.0
>C16-C21 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	11.0	2.0
>C21-C35 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	8.0	< 1.0
>C35-C44 Aromatic (EH_2D_AR)	CE250	N	1	µg/l	20.0	16.0

METHOD DETAILS

METHOD	TESTNAME	METHOD SUMMARY	ANALYSIS BASIS
CE266	VPH in Leachate	HS-GCFID	As submitted sample
CE267	VPH in Soil	HS-GCFID	As submitted sample
CE266	VPH in Water	HS-GCFID	-
CE250	GCXGC in Leachate	DCM Extraction and GCxGC-FID	As submitted sample
CE250	GCXGC in Water	DCM Extraction and GCxGC-FID	-
SUBCON	Asbestos Soil	HSG248	Air Dried Sample
CE061	W. Sol Metals	ICPOES	Air dried sample
CE264	Metals by ICP in Soil	ICPOES	Air dried sample
CE266	BTEX in Leachate	Analysis by HSGCFID	As submitted sample
CE267	BTEX in Soils	Analysis by HSGCFID	As submitted sample
CE266	BTEX in waters	Analysis by HSGCFID	-
CE263	ChromiumVI by Discrete Analyser in Soil	Gallery	Air dried sample
CE051	PAH in Leachate	DCM Extraction and GCMS	As submitted sample
CE087	PAH in Soil	DCM Extraction and GCMS	As submitted sample
CE087	PAH in Water	DCM Extraction and GCMS	-
CE077	Cyanides in Soils	Continuous Flow Analyser	As submitted sample
CE208	Chromium Hexavalent in Soil	Colorimetry	Air dried sample
CE197	TOC In Soil	PRIMACS Combustion Analyser	Air dried sample
CE286	TPHCWG in Soil	Acetone:Hexane Extraction, SPE and GCFID	As submitted sample

DEVIATING SAMPLE INFORMATION

Comments

Sample deviation is determined in accordance with the UKAS note "Guidance on Deviating Samples" and based on reference standards and laboratory trials.

For samples identified as deviating, test result(s) may be compromised and may not be representative of the sample at the time of sampling.

Chemtech Environmental Ltd cannot be held responsible for the integrity of sample(s) received if Chemtech Environmental Ltd did not undertake the sampling. Such samples may be deviating.

Key

- a Sampling date not provided
- b Sampling time not provided (waters only)
- c Sample not received in appropriate containers
- d Storage Temperature
- e Headspace present in sample container
- f Sample exceeded sampling to receipt
- g Sample exceeded holding time(s)

Lab ref	Sample ID	Depth (m)	Deviating	Tests (Reason for deviation)
133551	TP01	0.20 - 0.20	N	
133552	TP01	1.00 - 1.00	N	
133553	TP01	2.00 - 2.00	N	
133554	TP02	0.20 - 0.20	N	
133557	TP03	0.50 - 0.50	N	
133559	TP04	0.50 - 0.50	N	
133560	TP04	1.50 - 1.50	N	
133561	TP04	2.20 - 2.20	Y	b, BTEX in waters(g)
133562	TP05	0.10 - 0.10	N	
133563	TP06	0.70 - 0.70	N	
133564	TP06	1.20 - 1.20	N	
133565	TP07	0.10 - 0.10	N	
133566	TP08	0.10 - 0.10	N	
133567	TP09	0.20 - 0.20	N	

REPORT INFORMATION

Report No.:26-11759, issue number 1

Key	
U	ISO17025 Accredited Result
M	ISO17025 and MCERTS Accredited Result
N	Do not currently hold accreditation
^	MCERTS accreditation not applicable for sample matrix
*	ISO17025 accreditation not applicable for sample matrix
S	Subcontracted
I/S	Insufficient Sample
U/S	Unsuitable sample
N/T	Not tested
<	Means "less than"
>	Means "greater than"

LOD refers to limit of detection, except in the case of pH soils and pH waters where it means limit of discrimination.

This report shall not be reproduced except in full, without prior written approval.

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

All testing carried out at Unit 6 Parkhead, Stanley, DH9 7YB, except for subcontracted testing.

The results relate only to the sample received.

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

Moisture Content Calculated on a Wet Weight basis (at 30°C)

Unless otherwise stated, Chemtech Environmental Ltd was not responsible for sampling.

Where sampling was undertaken by Chemtech Environmental Limited it is outside the UKAS accreditation scope.

Methods, procedures and performance data are available on request.

Results reported herein relate only to the material supplied to the laboratory.

BTEX compounds are identified by retention time only and may include interference from co-eluting compounds.

For soils and solids, all results are reported on a dry basis (30°C). Samples dried at no more than 30°C in a drying cabinet.

For soils and solids, analytical results are inclusive of stones and 'inert' material, where applicable.

'Client Reference', 'Sample ID', 'Sample Location', 'Sample Type', 'Depth', 'Sample Date' and 'Sample Time' information is provided by the customer

Sample Retention and Disposal

All soil samples will be retained for a period of 4 weeks from the point of receipt

All water samples will be retained for a period of 2 weeks from the point of Reporting

Charges may apply to extended sample storage

TPH Classification - HWOL Acronym System

HS	Headspace analysis
EH	Extractable Hydrocarbons - i.e. everything extracted by the solvent
CU	Clean-up - e.g. by florisil, silica gel
1D	GC - Single coil gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics only
AR	Aromatics only
2D	GC-GC - Double coil gas chromatography
#1	EH_Total but with humics mathematically subtracted
#2	EH_Total but with fatty acids mathematically subtracted
-	Operator - underscore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total
MS	Mass Spectrometry

Unless specifically identified (noted as "(B)" in analyte name) all internal analysis performed at Durham site
Vat Reg No. 772 5703 18 Registered in England number 4284013

Appendix IV

- GEO Chemical Assessment Sheet

Soils : Generic Assessment Criteria

		TP01	TP01	TP02	TP03	TP04	TP04	TP05	TP06	TP06	TP07	TP08	TP09	Generic Assessment Criteria Residential With Plant Uptake 2.5% SOM		
		0.20 ~ 0.20	1.00 ~ 1.00	0.20 ~ 0.20	0.50 ~ 0.50	0.50 ~ 0.50	1.50 ~ 1.50	0.10 ~ 0.10	0.70 ~ 0.70	1.20 ~ 1.20	0.10 ~ 0.10	0.10 ~ 0.10	0.20 ~ 0.20	GAC	GAC Exceeded?	GAC Ref:
Depth (m)																
Asbestos																
Asbestos Identification	-	NAD		NAD	NAD	NAD		NAD			NAD			Present	No	Presence
Metals																
Water Soluble Sulphate	mg/kg	191.0	42.3	43.3	88.5	290.0	74.7	35.4	166.0	54.1	184.0	1530.0	278.0	>500	Yes	BRE
Arsenic	mg/kg	7.7	21.5	9.6	17.4	20.6	8.4	9.3	13.3	5.7	12.7	8.2	8.6	37	No	LQM S4UL
Cadmium	mg/kg	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	< 1.1	11	No	LQM S4UL
Copper	mg/kg	46.1	28.1	24.3	31.6	28.8	15.2	23.9	35.7	16.9	18.7	72.3	30.9	2400	No	LQM S4UL
Lead	mg/kg	82.5	14.6	10.6	26.1	25.1	12.4	38.3	60.6	9.8	10.1	< 2.4	20.9	200	No	CL:AIRE C4SL
Mercury	mg/kg	< 0.6	0.6	< 0.6	< 0.6	< 0.6	< 0.6	0.8	< 0.6	< 0.6	< 0.6	< 0.6	< 0.6	40	No	LQM S4UL
Nickel	mg/kg	10.6	30.1	13.7	27.3	26.6	12.4	15.6	21.8	19.5	23.1	7.1	21.6	130	No	LQM S4UL
Selenium	mg/kg	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	4.5	< 3.0	250	No	LQM S4UL
Zinc	mg/kg	83.6	54.3	54.4	85.9	82.8	58.0	102.0	73.0	43.6	36.4	68.3	80.4	3700	No	LQM S4UL
Colourimetric																
Water Soluble Chromium VI	mg/kg	< 0.040	< 0.040	< 0.040	< 0.040	0.050	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040	6	No	LQM S4UL
Total Cyanide	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	34	No	ATRISK SSV
Chromium III	mg/kg	15.10	30.90	20.10	30.50	29.80	18.10	23.00	31.50	25.70	23.20	14.20	21.80	910	No	LQM S4UL
Combustion																
Moisture Content	%	5.9	1.8	9.6	8.1	6.3	7.4	26.6	17.9	15.5	8.7	12.7	13.5			
Total Organic Carbon	%	3.30	0.29	3.55	0.58	0.66	1.11	4.87	3.28	0.79	0.28	1.25	1.03			
Polyaromatic hydrocarbons																
Naphthalene	mg/kg	0.092	< 0.016	0.108	0.019	0.026	0.052	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	< 0.016	5.6	No	LQM S4UL
Acenaphthylene	mg/kg	0.220	< 0.015	0.148	< 0.015	0.049	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.015	420	No	LQM S4UL
Acenaphthene	mg/kg	1.290	0.014	1.260	0.131	0.091	0.127	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	< 0.013	510	No	LQM S4UL
Fluorene	mg/kg	1.410	0.014	1.210	0.118	0.078	0.116	< 0.013	0.039	< 0.013	< 0.013	< 0.013	< 0.013	400	No	LQM S4UL
Phenanthrene	mg/kg	15.400	0.131	14.200	1.460	1.050	1.410	0.037	0.295	< 0.014	< 0.014	0.073	0.117	220	No	LQM S4UL
Anthracene	mg/kg	6.770	0.061	4.940	0.508	0.388	0.497	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017	0.037	5400	No	LQM S4UL
Fluoranthene	mg/kg	44.900	0.517	31.800	4.870	4.220	4.420	0.105	0.605	< 0.017	< 0.017	0.112	0.407	560	No	LQM S4UL
Pyrene	mg/kg	35.400	0.434	24.000	3.930	3.570	3.770	0.087	0.528	< 0.016	< 0.016	0.090	0.345	1200	No	LQM S4UL
Benzo(a)anthracene	mg/kg	22.800	0.325	17.300	2.910	2.420	2.720	0.064	0.300	< 0.012	< 0.012	0.049	0.236	11	Yes	LQM S4UL
Chrysene	mg/kg	20.800	0.273	15.500	2.370	2.430	2.380	0.058	0.291	< 0.028	< 0.028	0.051	0.203	22	No	LQM S4UL
Benzo(b)fluoranthene	mg/kg	25.100	0.430	16.800	3.340	3.050	3.470	0.071	0.381	< 0.020	< 0.020	0.083	0.368	3.3	Yes	LQM S4UL
Benzo(k)fluoranthene	mg/kg	11.800	0.142	7.180	1.490	1.230	1.480	0.031	0.151	< 0.025	< 0.025	0.027	0.110	93	No	LQM S4UL
Benzo(a)pyrene	mg/kg	21.100	0.297	12.900	3.080	2.590	2.900	0.052	0.307	< 0.019	< 0.019	0.045	0.233	2.7	Yes	LQM S4UL
Indeno(1,2,3-cd)pyrene	mg/kg	17.000	0.273	11.400	2.690	2.730	2.760	0.045	0.291	< 0.019	< 0.019	0.049	0.204	36	No	LQM S4UL
Dibenzo(a,h)anthracene	mg/kg	2.670	0.057	1.750	0.506	0.454	0.524	< 0.017	0.048	< 0.017	< 0.017	< 0.017	0.044	0.28	Yes	LQM S4UL
Benzo(g,h,i)perylene	mg/kg	9.870	0.225	6.810	1.920	1.680	1.810	0.036	0.192	< 0.019	< 0.019	0.046	0.163	340	No	LQM S4UL
BTEX																
Benzene	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.17	No	LQM S4UL
Toluene	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	290	No	LQM S4UL
Ethylbenzene	mg/kg	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	110	No	LQM S4UL
MTBE	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	84	No	CL:AIRE GAC (2010)
m,p-Xylene	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	130	No	LQM S4UL
oXylenes	mg/kg	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	< 0.002	140	No	LQM S4UL
Total Petroleum Hydrocarbons																
>C5-C6 Aliphatic (HS_1D_AL)	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	78	No	LQM S4UL
>C6-C8 Aliphatic (HS_1D_AL)	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.16	< 0.10	< 0.10	< 0.10	< 0.10	230	No	LQM S4UL
>C8-C10 Aliphatic (HS_1D_AL)	mg/kg	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.29	< 0.10	< 0.10	< 0.10	< 0.10	65	No	LQM S4UL
>C5-C7 Aromatic (HS_1D_AR)	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	140	No	LQM S4UL
>C7-C8 Aromatic (HS_1D_AR)	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	290	No	LQM S4UL
>C8-C10 Aromatic (HS_1D_AR)	mg/kg	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	83	No	LQM S4UL
>C10-C12 Aliphatic (EH_CU_1D_AL)	mg/kg	9.2	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	330	No	LQM S4UL
>C12-C16 Aliphatic (EH_CU_1D_AL)	mg/kg	97.1	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	< 4.3	23.0	< 4.3	< 4.3	< 4.3	< 4.3	2400	No	LQM S4UL
>C16-C21 Aliphatic (EH_CU_1D_AL)	mg/kg	125.0	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	162.0	< 2.5	< 2.5	< 2.5	< 2.5			
>C21-C35 Aliphatic (EH_CU_1D_AL)	mg/kg	250.0	< 5.2	63.4	14.4	83.0	15.2	< 5.2	275.0	< 5.2	< 5.2	197.0	< 5.2	92000	No	LQM S4UL
>C35-C44 Aliphatic (EH_CU_1D_AL)	mg/kg	162.0	< 2.6	51.0	9.2	131.0	19.6	< 2.6	14.1	< 2.6	< 2.6	3.0	< 2.6	92000	No	LQM S4UL
>C10-C12 Aromatic (EH_CU_1D_AR)	mg/kg	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	7.6	< 5.0	180	No	LQM S4UL
>C12-C16 Aromatic (EH_CU_1D_AR)	mg/kg	49.7	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5	< 5.5	32.2	< 5.5	330	No	LQM S4UL
>C16-C21 Aromatic (EH_CU_1D_AR)	mg/kg	346.0	< 4.5	13.6	8.1	< 4.5	4.6	< 4.5	117.0	< 4.5	< 4.5	68.9	< 4.5	540	No	LQM S4UL
>C21-C35 Aromatic (EH_CU_1D_AR)	mg/kg	1510.0	< 11.0	208.0	76.6	275.0	104.0	< 11.0	314.0	< 11.0	< 11.0	296.0	< 11.0	1500	Yes	LQM S4UL
>C35-C44 Aromatic (EH_CU_1D_AR)	mg/kg	794.0	5.8	292.0	60.9	548.0	172.0	< 5.2	31.2	< 5.2	< 5.2	69.0	< 5.2	1500	No	LQM S4UL
Wet Chem																
pH	pH units	8.4	8.7	8.2	8.2	8.4	8.7	7.6	7.5	8.8	8.3	7.9	8.0	<6.5	No	BRE

Waters : Generic Assessment Criteria

Lab Number			133561	Controlled Waters Risk Assessment		
Sample ID			TP04			
Depth (m)			2.20 - 2.20			
Sampling Date			16/09/2026			
Test	Method	Units		GAC Value	GAC Exceeded?	GAC Ref
Polyaromatic hydrocarbons						
Naphthalene	CE087	µg/l	< 0.10	2.0	No	EU EQS
Acenaphthylene	CE087	µg/l	< 0.10	0.1	No	UK DWS
Acenaphthene	CE087	µg/l	1.16	0.1	Yes	UK DWS
Fluorene	CE087	µg/l	0.43	0.1	Yes	UK DWS
Phenanthrene	CE087	µg/l	3.06	1.9	Yes	ERL
Anthracene	CE087	µg/l	1.01	0.1	Yes	UK DWS
Fluoranthene	CE087	µg/l	7.92	0.1	Yes	UK DWS
Pyrene	CE087	µg/l	6.98	0.1	Yes	UK DWS
Benzo(a)anthracene	CE087	µg/l	4.15	0.1	Yes	UK DWS
Chrysene	CE087	µg/l	3.79	0.1	Yes	UK DWS
Benzo(b)fluoranthene	CE087	µg/l	5.72	0.1	Yes	UK DWS
Benzo(k)fluoranthene	CE087	µg/l	2.13	170	No	EU EQS
Benzo(a)pyrene	CE087	µg/l	5.08	170	No	EU EQS
Indeno(1,2,3-cd)pyrene	CE087	µg/l	2.75	170	No	EU EQS
Dibenzo(a,h)anthracene	CE087	µg/l	0.66	0.1	Yes	UK DWS
Benzo(g,h,i)perylene	CE087	µg/l	2.02	170	No	EU EQS
Total PAH(16)	CE087	µg/l	46.80	-	-	-
BTEX						
Benzene	CE266	µg/l	< 1.0	N/A	N/A	N/A
Toluene	CE266	µg/l	< 1.0	3	No	WHO-DWQ
Ethylbenzene	CE266	µg/l	< 1.0	500	No	WHO-DWQ
MTBE	CE266	µg/l	< 1.0	10	No	WHO-DWQ
m,p-Xylene	CE266	µg/l	< 1.0	500	No	WHO-DWQ
oXylenes	CE266	µg/l	10.1	500	No	WHO-DWQ
Total Petroleum Hydrocarbons						
>C5-C6 Aliphatic (HS_1D_AL)	CE266	µg/l	< 1.00	15000	No	WHO-DWQ
>C6-C8 Aliphatic (HS_1D_AL)	CE266	µg/l	< 1.00	15000	No	WHO-DWQ
>C8-C10 Aliphatic (HS_1D_AL)	CE266	µg/l	2.30	300	No	WHO-DWQ
>C10-C12 Aliphatic (EH_2D_AL)	CE250	µg/l	34.5	300	No	WHO-DWQ
>C12-C16 Aliphatic (EH_2D_AL)	CE250	µg/l	< 1.0	10	No	UK DWS

Waters : Generic Assessment Criteria

>C16-C35 Aliphatic (EH_2D_AL)	CE250	µg/l	< 1.0	10	No	UK DWS
>C35-C44 Aliphatic (EH_2D_AL)	CE250	µg/l	4.0	10	No	UK DWS
>C5-C7 Aromatic (HS_1D_AR)	CE266	µg/l	< 1.00	10	No	UK DWS
>C7-C8 Aromatic (HS_1D_AR)	CE266	µg/l	< 1.00	10	No	UK DWS
>C8-C10 Aromatic (HS_1D_AR)	CE266	µg/l	10.100	300	No	WHO-DWQ
>C10-C12 Aromatic (EH_2D_AR)	CE250	µg/l	< 1.0	90	No	WHO-DWQ
>C12-C16 Aromatic (EH_2D_AR)	CE250	µg/l	7.5	90	No	WHO-DWQ
>C16-C21 Aromatic (EH_2D_AR)	CE250	µg/l	3.5	90	No	WHO-DWQ
>C21-C35 Aromatic (EH_2D_AR)	CE250	µg/l	< 1.0	90	No	WHO-DWQ
>C35-C44 Aromatic (EH_2D_AR)	CE250	µg/l	< 1.0	90	No	WHO-DWQ

Leachate : Generic Assesment Criteria

Lab Number			133553	133564	Controlled Waters Risk Assessment		
Sample ID			TP01	TP06			
Depth (m)			2.00 - 2.00	1.20 - 1.20			
Sampling Date			16/09/2026	16/09/2026			
Test	Method	Units			GAC Value	GAC Exceeded?	GAC Ref
Polyaromatic hydrocarbons							
Naphthalene	CE051	µg/l	< 0.10	< 0.10	2.0	No	EU EQS
Acenaphthylene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Acenaphthene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Fluorene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Phenanthrene	CE051	µg/l	< 0.10	< 0.10	1.9	No	ERL
Anthracene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Fluoranthene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Pyrene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Benzo(a)anthracene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Chrysene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Benzo(b)fluoranthene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Benzo(k)fluoranthene	CE051	µg/l	< 0.10	< 0.10	170	No	EU EQS
Benzo(a)pyrene	CE051	µg/l	< 0.10	< 0.10	170	No	EU EQS
Indeno(1,2,3-cd)pyrene	CE051	µg/l	< 0.10	< 0.10	170	No	EU EQS
Dibenzo(a,h)anthracene	CE051	µg/l	< 0.10	< 0.10	0.1	No	UK DWS
Benzo(g,h,i)perylene	CE051	µg/l	< 0.10	< 0.10	170	No	EU EQS
Total PAH(16)	CE051	µg/l	< 1.60	< 1.60	-	No	-
BTEX							
Benzene	CE266	µg/l	< 1.00	< 1.00	N/A	N/A	N/A
Toluene	CE266	µg/l	< 1.00	< 1.00	3	No	WHO-DWQ
Ethylbenzene	CE266	µg/l	< 1.00	< 1.00	500	No	WHO-DWQ
Xylenes	CE266	µg/l	< 1.00	< 1.00	500	No	WHO-DWQ
MTBE	CE266	µg/l	< 1.00	< 1.00	10	No	WHO-DWQ
m,p-Xylene	CE266	µg/l	< 1.00	< 1.00	500	No	WHO-DWQ
oXylenes	CE266	µg/l	< 1.00	< 1.00	500	No	WHO-DWQ
Total Petroleum Hydrocarbons							
>C5-C6 Aliphatic (HS_1D_AL)	CE266	µg/l	< 1.00	< 1.00	15000	No	WHO-DWQ
>C6-C8 Aliphatic (HS_1D_AL)	CE266	µg/l	< 1.00	< 1.00	15000	No	WHO-DWQ
>C8-C10 Aliphatic (HS_1D_AL)	CE266	µg/l	< 1.00	< 1.00	300	No	WHO-DWQ
>C10-C12 Aliphatic (EH_2D_AL)	CE250	µg/l	< 1.0	< 1.0	300	No	WHO-DWQ

Leachate : Generic Assesment Criteria

>C12-C16 Aliphatic (EH_2D_AL)	CE250	µg/l	102.0	41.0	10	Yes	UK DWS
>C16-C21 Aliphatic (EH_2D_AL)	CE250	µg/l	51.0	26.0	10	Yes	UK DWS
>C21-C35 Aliphatic (EH_2D_AL)	CE250	µg/l	30.0	46.0	10	Yes	UK DWS
>C35-C44 Aliphatic (EH_2D_AL)	CE250	µg/l	< 1.0	13.0	10	Yes	UK DWS
>C5-C7 Aromatic (HS_1D_AR)	CE266	µg/l	< 1.00	< 1.00	10	No	UK DWS
>C7-C8 Aromatic (HS_1D_AR)	CE266	µg/l	< 1.00	< 1.00	10	No	UK DWS
>C8-C10 Aromatic (HS_1D_AR)	CE266	µg/l	< 1.00	< 1.00	300	No	WHO-DWQ
>C10-C12 Aromatic (EH_2D_AR)	CE250	µg/l	< 1.0	< 1.0	90	No	WHO-DWQ
>C12-C16 Aromatic (EH_2D_AR)	CE250	µg/l	6.0	< 1.0	90	No	WHO-DWQ
>C16-C21 Aromatic (EH_2D_AR)	CE250	µg/l	11.0	2.0	90	No	WHO-DWQ
>C21-C35 Aromatic (EH_2D_AR)	CE250	µg/l	8.0	< 1.0	90	No	WHO-DWQ
>C35-C44 Aromatic (EH_2D_AR)	CE250	µg/l	20.0	16.0	90	No	WHO-DWQ



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