

FINAL

Curo Places Ltd and E. G. Carter & Co. Ltd.

**Supplementary Geoenvironmental
Ground Investigation Report**

**Land East of Church View
Sutton Benger
SN15 4FD**

**Report No: 25-10-01
December 2025**



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Client Name Curo Places Ltd and E. G. Carter & Co. Ltd.

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EXECUTIVE SUMMARY

Site Location	Land East of Church View, Sutton Benger, SN15 4FD
OS Grid Reference	ST 95043 78594
Development Proposals	It is currently proposed to construct a new residential development on land east of Church View, Sutton Benger, SN15 4FD. The proposals also include private gardens and communal soft-landscaped areas, along with pavements, roadways and private parking areas.
Published Geology	Geological maps identify that the investigation area is directly underlain by Quaternary superficial deposits of the River Terrace Deposits (Secondary A aquifer), overlying the Jurassic bedrock of the Kellaways Formation (an unproductive strata/non-aquifer)
Topography	The topography of the investigation area is generally flat-lying.
Site History	It is inferred that the site, whilst agricultural in nature at present, has been the site of some form of cut-and-fill operation. There is no record of such activities occurring on the site, and based upon 1945 German aerial imagery, it is suspected that groundworks possibly occurred during the Second World War when record keeping was restricted and or was lost. It is considered likely that the area was excavated to a depth of between 1m and ~3m (deepening southwards), with the sand and gravel aggregate of the River Terrace Deposits extracted (possibly for the war effort). Following this, infilling of the area has occurred, firstly with a heavily anthropogenic soil (consisting of ash, metal, glass, plastic, wood, etc.) and then capped with a reworked soil, before being returned to agricultural use from the 1950s.
Ground Conditions Encountered	The exploratory fieldwork undertaken during this investigations identified that the general succession of strata can be represented by highly variable and anthropogenic Made Ground (to a depth of between 0.75m and 2.95m, seemingly deepening towards the south and east), overlying cross bedded cohesive and granular River Terrace Deposits (to depths of between 2.90m and ~6.0m bgl seemingly deepening towards the south and east), overlying the Kellaways Formation, predominantly a stiff clay becoming mudstone to depth >15m bgl.
Groundwater Encountered	Significant groundwater was encountered within deeper exploratory holes at the site during the recent winter 2025 monitoring, at depths ranging from 1.33m bgl (52.53m AOD), but has been <1m.
Ground/Groundwater Contamination	There is an elevated risk perceived to both Human Health & the Environment at the site. The implications for the development are discussed in sections 7 & 8, respectively.
Gas Protection	Based on the conditions measured during the monitoring visits carried out to date, In accordance with BS8485:2015 and CIRIA C665, 2007 the site is classified as a Characteristic Situation 2/3 (CS2/3). Therefore, it is currently considered that ground gas protection is required with regard to methane or carbon dioxide gas. See section 10.3.
Waste Soil Classification	From the results of the HazWasteOnline spreadsheets and the WAC testing, currently, the waste soil on this site is recommended to be classified as follows. Made Ground (reworked soils/capping): 17-05-04, Inert Made Ground (anthropogenic/heavily anthropogenic): 17 05 03 Hazardous Natural Soil & Stones : 17-05-04, Inert
Recommendations	We recommend a watching brief should be undertaken during the construction phase, and if during development any previously undiscovered contamination (including visual or olfactory evidence) such as asbestos is found then site management should be immediately informed and inspection by a suitably qualified person should be undertaken. Gas protection measures will require verification after installation. This process will start with a gas verification plan in accordance with CIRIA C735. Elevated levels of manganese were encountered in the groundwater on site, which locally exceed the EQS and site-derived mbat assessment tool. The elevated levels were encountered within two of the six sampling locations within the central eastern section of the site, close to the site's eastern boundary. The risks to the identified water receptors from the site area itself are considered to be marginal, with respect to the impacted and un-remediated land to the east, and therefore, remediation of the impacted area of the site itself is considered to be inconsequential in improving the groundwater quality in this area. Therefore, it is important to enter into dialogue between the Environment Agency and Local Authority, as it is considered that localised remediation of the site would be fruitless, and likely to lead to a "re-contamination" from the land to the east.

This executive summary must be read in conjunction with this report and the previous site reports.

1 GROUND INVESTIGATION REPORT

1.1 INTRODUCTION

Geo-Integrity Ltd were commissioned by Alex Marles of Curo Places Ltd and E. G. Carter & Co. Ltd., on the 3rd October 2025, to undertake an additional site investigation on land East of Church View, Sutton Benger, SN15 4FD. This Phase I desk study and Phase II intrusive investigation have been completed to gather geo-environmental data.

Previously, the site had been the subject of a number of phased ground investigations. The findings of these previous investigations have been supplied by the client, and it is assumed that they have full reliance on this information.

This report describes the previous report's findings along with an updated desk-based searches of geological, environmental and historical information, the fieldwork and laboratory testing undertaken and provides an interpretative section of the geotechnical and geo-environmental data from this investigation to inform the proposed development.

The site is located at National Grid Reference ST 95043 78594.

The report is likely to be reviewed by Wiltshire Council with reference to the NPPF. Once the development is completed, and as a minimum, land must not be capable of being determined as 'contaminated land' under the terms of Part IIA of the Environmental Protection Act 1990. However, it also states that "Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner." As such, this desk study report is the first stage in investigating whether the site is likely to be considered "contaminated", in accordance with the ground conditions and pollution guidance section paragraph/s.

The objectives of this phase I and phase II interpretative report are:-

-  To undertake a site walkover to identify any potential pollution sources on the site.
-  To gather historical, geological and environmental information.
-  To review the previous investigation findings on the site.
-  To complete an updated site conceptual model so that potential pollutant linkages can be established and investigated further.
-  Briefly summarise the site development proposals and site setting.
-  To describe and report the fieldwork undertaken at the site.
-  To describe and report the chemical laboratory work undertaken on selected samples.

- To provide an interpretation of the results of this investigation with regard to the geo-environmental and waste disposal implications for the proposed development.

The investigation was performed in accordance with the general requirements of BS 5930:2015+A1-2020, BS EN 1997-2 (2009), BS EN ISO 22475-1 (2006) and other relevant related standards identified below. The initial fieldwork took place between the 23rd and 24th October 2025.

1.2 SOURCES OF INFORMATION

The following sources of information have been used to compile this report:-

- Flood Risk UK – Phase I Contamination Desk Study Report – November 2019.
- STM Environmental – Phase 2 Environmental SI & Contaminated Land Risk Assessment Report – July 2022
- Elemental GI Ltd – Phase 2 Geo-Environmental Investigation Report – April 2023.
- Elemental GI Ltd – Remedial Method Statement – June 2023.
- Elemental GI Ltd - Supplementary Factual Ground Investigation Letter Report – May 2025.
- Extracts of available historical Ordnance Survey (OS) maps covering the period from 1885 to 2025, which are presented in the Appendices.
- Groundsure Report Ref GS-TNF-W6T-BI9-JCU included in the Appendices.
- The British Geological Survey (BGS) and Environment Agency (EA) websites.
- A site reconnaissance visit undertaken on the 23rd October 2025.
- Information from various internet sites on site history and environmental setting.

It should be noted that the information provided in the desk study is obtained from independent third-party sources. It is provided in good faith, but no guarantee can be provided as to its accuracy. The desk study information is not necessarily exhaustive, and further information relevant to the site may be available from other sources.

1.3 DEVELOPMENT PROPOSALS

It is currently proposed to construct a new ~19 plot residential development on land east of Church View, Sutton Benger, SN15 4FD. The proposals also include private gardens and communal soft-landscaped areas, along with pavements, roadways and private parking areas.

2 PHASE I DESK STUDY

2.1 WALKOVER SURVEY

A site walkover survey was initially undertaken on the 23rd October 2025. Site location and layout plans are included in the Appendices, along with a selection of photographs taken during the survey.

The site forms an irregular, approximate ~0.84ha parcel situated to the east of the Village of Sutton Benger, east of the existing residential developments along Church View (road), and is accessed via an existing gateway off the B4069 - High Street (road).

The investigation area currently consists of a sequence of roughly rectangular open undeveloped paddocks, featured sequentially along the site, arranged north to south. Remains of small historical barn/shed structures were visible within the paddocks; however, none remained during the recent walkover.

Notably, the central-western section of the site consisted of a narrow orchard featuring two rows of apple trees. The site is bordered with mature and semi-mature trees/shrubs/hedgerows, with the paddocks donated by existing fence-lines, and the orchard area surrounded by mature coniferous planting.

The topography of the investigation area is generally flat-lying.

The investigation area is bordered by the B4069 - High Street (road) to the north, open agricultural fields to the east, and residential estates (houses and private gardens) to the south and west.

During the site walkover, there were no significant potential point sources of contamination encountered above ground. It was noted that the small barns/sheds had been removed, and the site was no longer in use as paddocks. Notably, however, overturned ground from recent delineation trenching on the site had revealed significant anthropogenic materials within the near-surface Made Ground soils at the site.

3 GEOLOGY

3.1.1 Published Geology

Reference to the British Geological Survey website and Sheet 266; Marlborough, 1974; indicates that the site is directly underlain by Quaternary superficial deposits of the River Terrace Deposits, overlying the Jurassic bedrock of the Kellaways Formation.

No Artificial Made Ground deposits are recorded locally to the investigation area on the geological maps.

3.1.1.1 Superficial

The underlying River Terrace Deposits are generally encountered as a detrital sand and/or gravel with lenses of silt, clay or peat, which forms beds and lenses of deposits reflecting the depositional environment of the channels, floodplains and levees the material was laid down in, and encountered up to a few metres in thickness in this area (dependant of historical alluvial features).

3.1.1.2 Bedrock

The Kellaways Formation is a grey mudstone, with beds of generally calcareous siltstone and sandstone. Geological maps record that this unit is encountered up to 50m in thickness in this area. In the area of the site, these beds are distinguished by the Kellaways Sand Member (recorded at the site area) overlying the Kellaways Clay Member, identified 800m north west of the site.

 The Kellaways Sand Formation is generally described by the British Geological Survey as a pale grey sandstone and siltstone with calcareous cement (termed “doggers” meaning locally strong cement) and interbeds of sandy and silty mudstone. This unit is encountered up to 10m in thickness.

 The Kellaways Clay Member is generally represented by a grey silicate mudstone, weathering to a clay near surface, with localised subordinate thin beds of siltstone and sandstone, and nodules of argillaceous limestone. This unit is typically encountered up to 50m in thickness.

3.1.2 BGS Historical Boreholes

The British Geological Survey holds records of a borehole, historically drilled 590m west of the site in 1959, within matching geomorphology.

This borehole recorded a sand & gravel (considered to be the River Terrace Deposits) to ~5.5m, overlying Kellaways Sand to 9.4m bgl, overlying hard blue clay (considered to be the Kellaways Clay) to 30m bgl.

The Kellaways Sand was recorded in this log as a 1m thick sandstone to 6.4m, transitioning to a 1.5m thick sandstone & - sand strata, overlying a sandstone & silty clay to 9.4m bgl.

3.2 HISTORY OF THE SITE

The history of the site has been established by the review of freely available information and old Ordnance Survey maps going back to 1885. The maps and any other relevant information are included in the appendices and indicate the following.

3.2.1 *Ordnance Survey*

The earliest maps, dated 1880s, record the investigation area to be located within open, undeveloped fields – named Queen Field, situated to the south of the B4069 - High Street (road) to the north, 19m east of the closest structure of the Village.

Between 1925 and 1956, Queen field was dissected roughly in half with a boundary positioned north/south, which dissects the site and effectively separates the main site area from the area which becomes the modern-day orchard.

Between 1974 and 1979, maps show the residential development of the land to the west along Church View (road). Furthermore, Queen Field is no longer referenced on maps, and the southern site boundary is shown. Furthermore, at this time, the sewage works are shown ~200m east of the site, and development in the field to the east is shown, including a track that crosses the area (within 100m of the site) seemingly leading to the south of the site were a triangular area ~150m southeast of the site labelled 'water' is shown – possibly indicative of a flooded area, or created pond feature.

No significant changes are then shown until the mid-1990s, after which the 'water' area is no longer shown on maps.

From the early 2000s, the site is recorded as (or possibly adjacent to) a mobile home/caravan park, and later, between 2010 and 2025, the residential development of Sharplands (road) is shown to the south of the site.

Notably, between 2010 and 2025, a barn structure is recorded within the northwestern area of the site.

The later O.S maps post 2003 provide less detail, and no longer show information such as field boundaries. As such, approximation of the site activities/layout after this date is not possible based solely on O.S maps.

3.2.2 *Aerial Imagery*

Aerial Imagery provided by the desk study pack from 2001 initially indicated that the site area is largely part of the open, undeveloped agricultural field to the east, with no eastern site boundary hedgerow present. Furthermore, the area currently denoted as the Orchard Area in the central western site area is shown as a separate, less-vegetated area, with 2-3 mature trees recorded. Notably, the northwestern site boundary (hedge line) is shown in position (not detailed on later O.S maps), with poly tunnels shown to the west of the site in this area.

Later imagery from 2006 shows the site still largely part of the field to the east, with the orchard area still shown as an undeveloped meadow/grassland with sporadic trees. Notably, the adjacent poly tunnels are no longer recorded, however.

Between 2006 and the next available image in 2016, the site was converted into its recent paddock usage, with the eastern site boundary/hedgerow separating the field from the sequence of roughly rectangular open paddocks, arranged north to south. At this time, the separated meadow/grassland has been converted into the orchard area identified during the site walkover. Furthermore, a barn structure is situated centrally along the western site boundary – likely serving the paddocks.

Subsequent images dated 2020 and 2023 show additional barn structures constructed along the western site boundary in the northern site area.

It is considered, therefore, that the demolition/removal of the barn structures and the disuse/deterioration of the site have occurred since this time.

Furthermore, no indication of the areas shown as 'water' is shown on the imager from 2001.

3.2.3 *Historical Aerial Imagery*

Notably, freely available historical aerial images accessed online, dated 1945, taken during WWII, show the site and area to the east of the site to appear significantly different from the surrounding agricultural land use.

Given the relatively low quality nature of the black and white German aerial imagery, it is difficult to discern the site activities; however, the shading of the site area itself would suggest intensive activities - possible reworked soils or trackways which lead into the adjacent land to the east, which also shows darker linear features, possibly indicative of stockpiles, earthworks, or areas of plantations.

This timeframe fits between the available OS maps from the time and would coincide with the southern and orchard area boundaries identifiable on the 1945 aerial image, and shown from the 1956 map onwards. However, no record of the on-site activities is shown on the 1950s OS map, with the site appearing as a recently re-bounded open, undeveloped field from that date.

3.3 UNEXPLODED ORDNANCE AND BOMB SITES

Reference to the site-specific unexploded bomb risk map (UXO) produced by Zetica indicates that the site is located in an area where there is a low risk of unexploded ordnance. Low risk regions are those with a bombing density of <15 bombs per 1000 acres or less.

Care is however, required when assessing the risk for specific sites where the risk may be higher because of local wartime activity, such as munitions factories, pivotal infrastructure, airfields and dummy airfields, many of which were removed from historical maps in the interest of national security.

3.4 HYDROLOGY

The nearest surface watercourse is an inland river (drain feature) located 150m southwest of the site. This inland river feature appears to flow towards the River Avon in a southeasterly direction away from the site.

The wider hydrology of the area includes the River Avon curving and flowing around from the northeast (within 430m to 538m of the site), around to the east (~750m of the site), before flowing southwards away from the site, which is where the nearby inland river tributary connects to the River Avon approximately 930m southeast of the site.

The site is recorded to lie within the WFD surface water body catchment of the River Avon ((Brist) conf Tetbury Avon to conf R Marden) – Water Body Id: GB109053027650, with an operational catchment recorded as Avon Bristol and a management catchment designated as Avon Bristol and Somerset North.

The River Avon in this area is recorded to have an overall rating of moderate, an ecological rating of moderate and a chemical rating of fail (dated 2019).

There are no current potable surface water abstraction licenses located within 2000m of the site. However, there is a single active surface water abstraction license located within 2000m of the site, located 1845m south of the site; its details are shown below;

Status: Active, Licence No: 17/53/001/S/229
Details: Spray Irrigation – Direct
Direct Source: Surface Water - Fresh
Point: RIVER AVON
Data Type: Line
Name: Drewett
Easting: 394900 Northing: 176100
Annual Volume (m3): 5455 Max Daily Volume (m3): 436
Original Application No: 17/53/001/S/229
Original Start Date: 13/06/1966 Expiry Date: -
Issue No: 100
Version Start Date: 01/04/2005 Version End Date: -

3.5 HYDROGEOLOGY

Reference to the Environment Agency website indicates that the site is located on the following aquifers and aquicludes;

-  Secondary A Aquifer – associated with the superficial River Terrace Deposits beneath the site, and wider catchment area. Secondary A designations are described as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases, forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.
-  Unproductive Strata - associated with the underlying Kellaways Sand Member. Unproductive strata are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

Notably, a Secondary A bedrock aquifer is recorded 179m west of the site, seemingly also associated with the Kellaways Sand Member; however, this is considered to be situated up hydraulic gradient from the site, as it is situated farther from the River system (in all directions than the site).

The aquifer designation data is based on geological mapping provided by the British Geological Survey. The maps are divided into two different types of aquifer designation:

Superficial (Drift) - permeable unconsolidated (loose) deposits. For example, sands and gravels.

Bedrock - solid permeable formations e.g., sandstone, chalk and limestone.

For each type, there are four designations: -Principal, Secondary A, Secondary B and Unproductive Strata, ranked by importance.

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level has been determined by the British Geological Survey and the Environment Agency, based on the

hydrological, geological, hydrogeological and soil properties within a square kilometre grid. Groundwater vulnerability for the superficial aquifer is recorded as a high vulnerability; however, as the bedrock is recorded as unproductive strata, the bedrock is not considered to be vulnerable.

Given the above, the soil/surface leaching class is recorded as high with an Infiltration value of >70% and a Dilution value of 300-550mm/year.

The superficial geology Secondary A aquifer is recorded with a thickness of <3m and a patchiness value of >90%, along with a recharge potential of medium. Conversely, the underlying unproductive bedrock geology is not recorded to be vulnerable, with flow mechanisms restricted to well-connected fractures.

The site is recorded to be located outside of any normal Source Protection Zones, source protection zones define the sensitivity of an area around a potable abstraction site to contamination. However, the site is situated within a confined aquifer source protection zone - type 2c (Outer catchment within confined aquifer). Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

A normal SPZ is generally divided into three zones defined as follows:

Zone 1- Travel time (of water) of 50 days or less to the groundwater source.

Zone 2- Either 25% of the source area or a travel time of 400 days, whichever is the greater.

Zone 3- The total area needed to support the discharge and abstraction from the protected groundwater source. This site is within a Zone 3, which means the Environment Agency will pay particular attention to any plans for drainage on the site.

Similarly, a zone 2c (confined) is also defined with a travel time of 400 days from a distant recharge area to the protected Aquifer, conservatively estimated as the underlying Jurassic limestones, which are at significant depth, predicted to be 30m beneath the site itself.

There are no current potable groundwater abstraction licenses located within 2000m of the site. However, there is a single active groundwater abstraction license located within 2000m of the site, located 1839m south of the site; its details are shown below;

Status: Active

Licence No: SW/053/0006/005

Details: General Use Relating To Secondary Category (Medium Loss)

Direct Source: Ground Water - Fresh

Point: LAKE FARM BOREHOLE

Data Type: Point

Name: WT & RT Greenhill

Easting: 393400 Northing: 177661

Annual Volume (m3): 30000 Max Daily Volume (m3): 100

Original Application No: NPS/WR/036552

Original Start Date: 11/03/2013 Expiry Date: 31/03/2029

Issue No: 2

Version Start Date: 29/01/2024 Version End Date: -

Furthermore, there is a single unrevoked licensed discharge to controlled waters within a 500m area recorded within the surrounding area relating to sewage discharges of final/treated effluent (not water company) 339m northwest of the site, considered unlikely to significantly impact the site area itself.

Additionally, there have been two impactful recorded pollution incidents in controlled waters within the surrounding area since 2006; their details are shown below;

- **Location: 214m west, Date: 12/05/2003, Incident Identification: 158019, Pollutant: Contaminated Water, Pollutant Description: Other Contaminated Water, Water Impact: Category 3 (Minor), Land Impact: Category 4 (No Impact).**
- **Location: 323m west, Date: 04/03/2014, Incident Identification: 1214012, Pollutant: Oils and Fuel, Pollutant Description: Kerosene and Aviation Fuel, Water Impact: Category 2 (Significant), Land Impact: Category 2 (Significant)**

However, these are considered unlikely to have significantly impacted the site area itself, given the distances.

There are no sites determined as contaminated land within 500m of the site and no licensed pollutant releases (part A(2)/B) within proximity to the site.

Further records do identify a sewage treatment works and related filter beds/ open sludge tanks >200m east of the site. However, again, these are considered unlikely to significantly impact the site.

3.6 WASTE TREATMENT AND LANDFILL SITES

3.6.1 Landfills

There are no records of any active or recent landfill within 500m of the site area. Furthermore, there are no records of historic landfill sites identified from Local Authority records/High detail historical mapping within 500m of the site's operational area.

However, Environment Agency records do identify that a single historical landfill is recorded within 500m of the site; The record shows that the Sutton Benger Tip extended to within 358m, to the east of the site. Records indicated the following;

Site Address: Sutton Benger Tip, Swindon Road, Sutton Denger, Wiltshire

Waste Type: Inert, Industrial, Commercial, Household

Operator: Calne and Chippenham Rural District Council

First Recorded 31/12/1964 Last Recorded: 31/12/1972

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

Further to this, a separate record of the Sutton Benger tip is recorded, sourced from the British Geological Survey (under BGS Number 1487) at 46m east of the site, located within the field to the immediate east of the site. The waste type is given as n/a, and the risk is provided as: risk to minor aquifer.

3.6.2 Other Waste Treatment Sites

There are no records of other waste treatment sites in close vicinity to the site area.

However, there is a waste exemption of note, situated 143m south of the site under reference WEX364608, for the use of waste in construction, not on a farm.

Information from the Environment Agency's waste exemption public register shows that the exemption was for hills homes Developments Limited, at grid reference ST 95062 78324, for ongoing development works between 2023 and 2026, and likely relates to the recent residential development works situated to the south of the site.

3.7 INDUSTRIAL USAGE SITES

There are limited past/present potentially contaminative activities that have been found within 250m of the site, including the following;

-  Smithy (blacksmiths) – 56m west of the site – prior to 1899
-  Electrical substation – 90m west of the site.
-  Pylons – 201m east and 219m south of the site.
-  Sewage works, Unspecified tanks & sludge beds/tanks – from 207m east of the site.

There are no active or inactive fuel filling stations identified within 500m of the site.

3.8 WORKED OUT GROUND/MADE GROUND

Information supplied by the desk study material identified that two limited instances of worked ground are recorded within the nearby 250m surrounding area.

These are shown as areas of surface ground workings relating to:

1. A pond located 154m in the field to the southeast of the site, located in the areas shown as “water” on historical maps between the 1970s and 2000s, that is no longer visible on maps or plans.
2. Ponds and works associated with the sewage works 207m east of the site.

Information from the wider surrounding area also indicates that the area includes sand and gravel extraction. Whilst there is no record of sand and gravel extraction from the site or immediate area, both the pond 154m southeast, and the historical imagery from the 1940s may imply that unrecorded gravel extraction (likely for aggregates) may have occurred -closer to the site.

The River Terrace Deposits have been widely excavated across the UK for use as aggregates. Typical practices during the 19th and 20th centuries either left the land excavated, becoming wetlands in many instances, or alternatively backfilled as landfill sites; however, the latter was typically recorded.

3.9 GROUND GASES

3.9.1 Radon

Information obtained from the BGS and the National Geoscience Information Service indicates that the site lies within an area where less than 1% of homes exceed the action level of 200Bq/m³ for

radon gas. Therefore, no radon protection measures are necessary in the construction of new dwellings or extensions on this site.

However, should the development proposals change to include a basement, as radon levels may be higher in an underground room and in accordance with BRE Quick Guide 7, Reducing Radon, Underground Rooms – Cellars and Basements, 2015, appropriate mitigation options could be considered during the design phase.

3.9.2 Landfill Gasses

Based solely on the desk study information, it would be considered that the site is unlikely to be at risk from ground gases.

3.10 POTENTIAL GEOTECHNICAL HAZARDS

The desk study information identified that the site does not lie within an area likely to be affected by coal mining or non-coal mining activities.

The risk of naturally occurring geotechnical hazards at the site based on the natural geology is recorded in the Groundsure report to range from negligible and very low.

3.11 POTENTIALLY SENSITIVE LAND USES

The desk study information identified no instances of significantly sensitive land uses within close proximity; however, a Lowland neutral grassland (MG5) site of special scientific interest is situated 812m southwest of the site, considered unlikely to be significantly down the hydraulic gradient of the site, and therefore not at significant risk from the site and or proposed development itself.

4 PREVIOUS INVESTIGATION & ANALYSIS RESULTS

The salient information from the available previous report/s has been provided in the section below to build the updated conceptual site model. For full details, the previous report/s should be referred to in the first instance.

The following reports have been reviewed below:-

1. Flood Risk UK – Phase I Contamination Desk Study Report – November 2019.
2. STM Environmental – Phase 2 Environmental SI & Contaminated Land Risk Assessment Report – July 2022
3. Elemental GI Ltd – Phase 2 Geo-Environmental Investigation Report – April 2023.
4. Elemental GI Ltd – Remedial Method Statement – June 2023.
5. Elemental GI Ltd - Supplementary Factual Ground Investigation Letter Report – May 2025.
6. E. G. Carter & Co. Ltd – Trenching Investigation.

It is understood that the client E. G. Carter & Co. Ltd has full reliance on this information, and it has therefore been treated as such. Therefore, the salient findings of these previous investigations have been included below to provide a more comprehensive analysis of the site area.

4.1 FLOOD RISK UK – PHASE I CONTAMINATION DESK STUDY REPORT – 2019

The Flood Risk UK – Phase I Contamination Desk Study Report – November 2019 appears to have initially been written for a far wider site area, including the larger open field to the east up to the sewage treatment works ~200m east of the site area. However, from evidence in the text, this report was rewritten to refocus on the current site area from an original March 2019 desk study (located to the east); however, some confusion remains in the text, with incorrect information pulled through from a predating adjacent report.

The site walkover and desk-based report was undertaken in 2019 when the area was an active llama paddock, prior to the removal of the recent barn structures on site. The report concluded that there was a low risk to a similar development and indicated the following: *“The probability of contamination on the site is thought to be low. However, if there is contamination present, then it could leach into the underlying aquifers. Therefore, if contamination is identified in the intrusive Phase 2 investigation, then appropriate remedial measures should be identified and implemented”*

The 2019 report also identified the record of the BGS/DOE landfill recorded to the east of the site and stated that *“A BGS/DoE Survey Landfill site has been identified on-site, associated with the*

Traveller's Site to the northeast... Further investigation of the BGS/DoE Survey Landfill site onsite is recommended, and also of the landfill site to the east. The primary potential sources of contamination to the site are therefore from the current Agricultural Use and Potential Ground Gas arising from landfill activities”.

4.2 STM ENVIRONMENTAL – PHASE 2 ENVIRONMENTAL SI & CONTAMINATED LAND RISK ASSESSMENT REPORT – JULY 2022

The STM Environmental – Phase 2 Environmental SI & Contaminated Land Risk Assessment Report dated July 2022 also states that it is a cut-down report that previously included an investigation of the adjacent land to the east.

“Site investigation works were carried out between the 17th - 19th of March 2021. 2no. trial pits (TP01 and TP06) were excavated to a maximum depth of 2 mbgl using an excavator. A total of 3no. soil samples were collected and submitted to a UKAS/MCERTS accredited laboratory for analysis of Heavy Metals, TPH, BTEX, PAHs and Asbestos.

The strata encountered in the trial pits generally consisted of Made Ground (up to 2.0 mbgl) comprising clayey Silt, which underlain by light brown Clay/Silt. Visual indications of contamination of the Made Ground were observed (i.e. concrete, metal...porcelain, brick fragments...burnt material... abundant household waste such as glass bottles, plastics, fragments of burnt wood, clothing glass, plastic and bin bags, cardboard and rubber) generally across the site.

No significant PIO readings were recorded in soils from either of the trial pits.

A Generic Quantitative Risk Assessment was carried out where the results of the soil sample analysis were compared to Generic Assessment Criteria (GAC) for a residential with plant uptake land use scenario.

A single concentration of Arsenic was found to exceed its adopted GAC for a residential with plant uptake scenario in 1 no. of the sampling locations.

Asbestos was not detected in any of the samples analysed.

The Conceptual Risk Model for the site was reassessed incorporating the results of the site investigation. Potentially Significant Potential Pollutant Linkages were considered to exist with respect to human health and property receptors.

These were concerned with the risk of human health receptors (construction workers and future occupiers) being exposed to the contamination identified while undertaking groundworks in recreational activities in gardens via the direct contact and inhalation pathways. In addition, the

potential explosion related risks associated with the accumulation of ground gases from off-site sources were considered to have the potential to be significant.

Given the findings of the site investigation and the limited investigation undertaken in the smaller area of the site, it is recommended that further investigation is undertaken in this area in order to identify any potential necessary remedial measures required to break the Potential Pollutant Linkages identified so as to render the site suitable for the proposed residential end use of the site.

Following further investigation, a formal remediation strategy will likely be required via a condition of the planning consent and this will need to be submitted to the Local Planning Authority for approval. Once completed, the remedial works will need to be validated by a qualified Environmental Consultant and a remediation verification report submitted to the Local Planning Authority for approval prior to occupation of the development.”

Whilst the contaminants identified and assessed under section 8 of the report were identified to have the potential to be significant to human health receptors. The report identified that although the underlying aquifer is classified as Secondary A, it is considered that the contamination identified in the groundwater samples collected during the groundwater monitoring (which was undertaken as part of the main investigation) in boreholes nearby to the smaller area of the site is minor and, as such, is unlikely to impact groundwater receptors. Furthermore, they considered that the contaminants (i.e. heavy metals, PAHs) identified in soils and groundwater at the site and collected as part of the main investigation in boreholes nearby to the smaller area of the site are generally immobile and, as such, are considered unlikely to significantly impact upon the water body.

The report also provides a review of an Archaeological Site Investigation for the wider site area – not seen by Geo-Integrity Ltd. It states that;

“The Archaeological Evaluation by Thames Valley Archaeological Services...was undertaken in October 2020. The investigation encountered waste deposits generally across the site and the report states: "Of the thirty-four proposed trenches only nine were opened fully, one partially and the remaining twenty-four only as test pits. At no point was natural geology reached and the only deposits found were modern backfill and landfill to depths of over 2.5m. This suggests that the area was used for gravel extraction to significant depths, destroying any archaeological deposits that might have been present. The gravel pits were subsequently backfilled with landfill in the 19th to 20th centuries." Although the historical maps reviewed in the Phase 1 Reports identified a Tip/Landfill 148m east of the site, there was no evidence to suggest this had spread to the site itself.

The Addendum also summarises a Geophysical Survey Report by SUMO dated July 2020 which stated that: ".A number of discrete linear anomalies are visible amongst the highly magnetic areas of disturbance across the site. These are of uncertain origin but appear to correspond with linear features visible on the 1945 aerial photograph of the site. It is unclear as to whether these features are a result of former plantation, an area of former extraction, quarrying or another form of activity, perhaps associated with WWII efforts. The data across the site are extremely noisy and reflect an area of made or disturbed ground, the origin of which is uncertain."

Materials described as "grey backfill, black waste, black ash and modern waste, a number of layers of backfill, potentially hazardous material and broken tarmac" were identified in the site investigation. The Conceptual Risk Model was reassessed taking into account the new information from the Archaeological site investigation. The Addendum concludes that the site is medium to high risk and that it is necessary to expand the scope of the Phase 2 due to the waste deposits encountered."

4.3 ELEMENTAL GI LTD – PHASE 2 GEO-ENVIRONMENTAL INVESTIGATION REPORT – 2023

The Elemental GI Ltd, Phase 2 Geo-Environmental Investigation Report dated April 2023, was undertaken on the current site area itself, at a time when the site supported a series of grazing paddocks, a disused orchard and several animal shelters/barns. Site investigation works primarily included seven shallow boreholes to a maximum depth of 4.45m bgl (three of which were completed as monitoring wells.

"The site has been recorded to be underlain by variable depths of made ground, and the natural soils include both granular and cohesive soils of variable compositions and strengths...Elevated concentrations of arsenic, lead, nickel and mercury have been recorded in made ground in some areas...Elevated ground gas has been detected, and protection measures will be needed in all new buildings."

The Made ground was encountered almost exclusively across the site to a maximum depth of 3.90m and consisted of reworked soils of a sandy gravelly clay/silt with fragments of clinker, brick and other materials. This was typically underlain by granular Made Ground, which contained an increasing amount of anthropogenic materials, including concrete, ceramic, shale, brick and glass fragments and plastic debris. Natural underlying soils were indicated as the variably cohesive/granular River Terrace Deposits (or possible alluvium). Deeper stiff grey clay encountered locally from depths of 3.90m bgl, considered to represent the Kellaways Sand Member or the Oxford Clay Formation

Mudstone. Groundwater was identified at depths ranging from 0.58m to 2.0m bgl. The depths at which water was encountered were relatively consistent across the site, potentially indicating the presence of a consistent water body. It was considered possible that this may be perched/confined by deeper cohesive soils.

It is noted that the soil exceedances of arsenic, lead, nickel and mercury were all within samples retrieved from made ground materials, with levels relatively marginally exceeding the designated assessment criteria. No elevated TPH, S/VOCs, PAHs, pathogens or pesticides were encountered, and no asbestos was detected. Furthermore, no exceedances from soil samples retrieved from the underlying natural soils were encountered. Subsequently, selected samples were retrieved for leachate testing during the recent investigation and were assessed against relevant water quality standards (i.e. EQS and UK/EU for 'Protection of Surface Waters Intended for the Abstraction of Drinking Water screening values). No exceedances were identified from the recent leachate testing in relation to the selected screening values, and the conclusion of the report section was that the made ground beneath the site is not currently presenting risks to controlled waters.

Additionally, based upon gas monitoring results of the three boreholes, it was considered that a large proportion of the site would be subject to ground gas protection characteristic Situation CS3 (CIRIA 149) due to low oxygen (4.7%), along with elevated carbon dioxide (7%) and methane (0.60%), concurrent with high recorded flow rates (15.2l/hr).

4.4 ELEMENTAL GI LTD – REMEDIAL METHOD STATEMENT – 2023

The follow-up Elemental GI Ltd Remedial Method Statement report, dated June 2023, provided a methodology for implementing a remedial protective measure to protect the end users from the elevated ground gases and soil contamination levels encountered during the previous works.

Elevated concentrations of arsenic, lead, nickel and mercury have been recorded in made ground in some areas. Furthermore, elevated ground gas has been detected.

The previous conceptual site model identified that potential pollutant linkages exist which relate to the contamination and to the future residential end users, and it was considered that these need to be broken in order to ensure that risks to future site users are negated.

Subject to regulatory/warranty provider approval, it was recommended that private gardens should be capped with a 600mm capping layer comprising clean natural subsoil/topsoil materials. A reduced

capping layer was recommended for less sensitive areas. Validation of these areas will then be required to verify the success of these remedial works.

Future buildings at the site will need to have ground gas protection measures installed as part of their construction. Given this variability of ground gas results, a conservatively zoned approach was recommended at the site, subject to regulatory authority/warranty provider approval. The report recommended that ground gas protection could be zoned to the following plots:

-  CS2: Plots 1 to 3 and Plots 18-19
-  CS3: All Remaining Plots (4 to 17)

They considered that in accordance with BS8485, the proposed residential end-use type here would require 4.5 No. 'points' in CS3 areas, and 3.5 No. 'points' in CS2 areas to benefit from sufficient protection from ground gas.

4.5 ELEMENTAL GI LTD - SUPPLEMENTAL FACTUAL GROUND INVESTIGATION LETTER REPORT – 2025

The Elemental GI Ltd, Supplementary Factual Ground Investigation Letter Report dated May 2025, included additional works in the site area.

The investigation comprised rotary borehole drilling with associated sampling and testing, in situ plate bearing tests, laboratory geotechnical testing and the provision of a factual report.

The fieldwork was carried out between 1st and 4th April 2025, and consisted of two rotary boreholes to 15m bgl with associated sampling and testing alongside six plate load tests.

The supplementary exploratory holes identified similar materials, including heavily anthropogenic Made ground soils to depths ranging from 1.90m to 3.0m, overlying indicative River Terrace Deposits to depths ranging from ~5/6m, overlying the Kellaways Formation to depths in excess of 15m bgl.

The Kellaways Formation was encountered as a very weak grey Mudstone, with a 0.95m to 2.2m thick band of weak grey calcareous sandstone from 8.11m to 9.80m in BH1 (in the north of the site) and from 11m to 13.2m bgl in BH2 – positioned in the south of the site.

Furthermore, additional chemical testing of a wide range of contaminants was also undertaken; however, given the factual nature of the report, no assessment of these results was undertaken.

The results indicate that no asbestos, MTBE, BTEX or PCBs were identified in any of the four samples tested above detectable limits. PAHS were identified at extremely low levels, and similar to

previous investigations, elevated metal values were recorded from the Made Ground – including arsenic, cadmium and lead.

Leachate testing was also undertaken on each of the samples for WAC test purposes, which again indicated that leachate (irrespective of their total soil levels) were extremely low, relatively speaking.

Additionally, as part of the WAC testing, total mineral oil results for (>C10-C40 Aliphatic) were shown to be <224mg/kg, which is again below the attributed soil gas in the above assessments.

4.6 E. G. CARTER & CO. LTD – TRENCHING INVESTIGATION – OCTOBER 2025

E. G. Carter & Co. Ltd undertook a trenching investigation of the site in early October 2025, in an attempt to define the vertical and lateral limits of the anthropogenic Made Ground Material. Previous investigation holes had inferred that the site may be able to be zoned east/west centrally between thick, heavily anthropogenic materials and thin overlying anthropogenic materials.

The investigation identified stratigraphy similar to that historically identified, including a reworked soil to 0.50m bgl overlying heavily anthropogenic soils to a depth ranging from 1m to depths exceeding 2m bgl (seemingly deepening towards the south. Trenching was not successful in identifying the lateral limit of the heavily anthropogenic soils.

5 UPDATED INITIAL CONCEPTUAL SITE MODEL

In accordance with the Environment Agency guidance LCRM *Land Contamination: Risk Management*, (EA, 2019), this desk study, review of previous investigations and updated site reconnaissance report constitute an updated preliminary risk assessment in order to establish the potential presence of pollutant linkages.

The natural geology for this area should include ~4-6m of River Terrace Gravels (a Secondary A Aquifer) overlying the Kellaways Formation, an unproductive aquifer, consisting predominantly as a mudstone – identified by the EA/BGS as an unproductive aquifer.

Based on available sources, it is inferred that the site, whilst agricultural in nature at present, has been the site of some form of cut-and-fill operation. There is no record of such activities occurring on the site, and based upon 1945 German aerial imagery, it is suspected that groundworks possibly occurred during the Second World War when record keeping was restricted and or was lost.

Based on the previously encountered ground conditions, it is considered likely that the area was excavated to a depth of between 1m and ~3m (deepening southwards), with the sand and gravel

aggregate of the River Terrace Deposits extracted (possibly for the war effort). Following this, infilling of the area has occurred, firstly with a heavily anthropogenic soil (consisting of ash, metal, glass, plastic, wood, etc.) and then capped with a reworked soil, before being returned to agricultural use.

Recorded/document history only indicates that the site formed the western limit of an agricultural field until a date between 2006 and 2016, when the site was converted into its recent llama paddock usage, with the eastern site boundary/hedgerow separating the field from the sequence of roughly rectangular open paddocks, arranged north to south. At this time, an area of separated meadow/grassland had also been converted into the orchard area identified during the site walkover. Subsequent images dated 2020 and 2023 show additional barn structures constructed along the western site boundary in the northern site area, which have all been recently removed from the site along with all stored materials.

As such, during the recent October 2025 site walkover, there were no significant potential point sources of contamination encountered above ground. Notably, however, overturned ground from recent delineation trenching on the site had revealed significant anthropogenic materials within the near-surface Made Ground soils at the site.

Previous geoenvironmental risk assessments have as such identified a risk to end users from contact with elevated contaminants identified within the near-surface soils on site, and an engineered soil cover system has been recommended.

Conversely, the leachate results from multiple investigations have shown that these elevated levels are restricted to low mobility compounds such as Metals and PAHs, and as such, there has not been a significant risk considered likely to significantly impact/harm nearby controlled waters or groundwater.

Additionally, ground gas risk assessments have identified that elevated ground gases (methane and carbon dioxide) are present at the site, in conjunction with elevated flow levels, and as such, it has been recommended that zone gas protection measures be employed at the site to protect end users.

The diagram below illustrates the updated conceptual ground model, which may impact both human health and the environment, via a source/pathway/receptor linkage.

Potential Source	Potential Pathway	Potential Receptor	Considered Risk
Historic contaminants (such as metals and inorganic substances) within the ground from long human history	Ingestion, inhalation, or absorption from direct contact with soil.	End Users	Medium/High risk
	Leaching through the ground	Controlled Waters	Low/Medium risk
	Possible contact during work phase	Construction Workers	Medium/High risk
Historic hydrocarbons within the ground from long human history	Ingestion, inhalation, or absorption from direct contact with soil.	End Users	Low risk
	Volatile vapours possible	End Users	Low/Medium risk
	Leaching through the ground	Controlled Waters	Low/Medium risk
	Possible contact during work phase	Construction Workers	Low/Medium risk
	Possible contact	Underground services	Low/Medium risk
Historic asbestos within the made ground from long human history	Inhalation from exposed soil.	End Users	Low/Medium risk
	Possible contact during work phase	Construction Workers	Low/Medium risk
Ground gas from organic soil and made ground	Inhalation in buildings if present	End Users	High risk

As instructed by the client and based upon the above updated assessment is considered that further delineation of the site risks is warranted, along with further assessment of the risk to ground waters.

6 GEO-INTEGRITY LTD PHASE II SUPPLEMENTARY GEOENVIRONMENTAL INTRUSIVE INVESTIGATION – OCTOBER 2025

6.1 SITE WORK AND SAMPLING STRATEGY

The fieldwork was undertaken in accordance with BS 5930:2015+A1:2020, BS EN 1997-2 (2007) (NA 2009) and BS EN ISO 22475-1 (2006), with the exploratory locations being selected by Geo-Integrity Ltd. The exploratory hole locations can be seen in the Appendices.

The initial fieldwork was undertaken between the 23rd & 24th October 2025 and consisted of nine continuous tube (window) sampler boreholes to a maximum depth of 4.0m bgl.

Exploratory Hole	Location Reasoning	Installation Details
CT1	Located in the northwest of the northern paddock, where thinner overburden was expected.	Groundwater @ 2.20m installation at 3.0m bgl
CT2	Located in the northeast of the centre-mid paddock, where thicker overburden was expected.	Groundwater @ 2.30m installation at 3.0m bgl
CT3	Located in the northeast of the centre-south paddock, where thicker overburden was expected.	Groundwater @ 2.50m installation at 3.50m bgl
CT4	Located in the northeast of the southern paddock, where thicker overburden was expected.	Groundwater @ 2.85m installation at 3.0m bgl
CT5/CT5A	Located in the south of the southern paddock, where the thickest overburden was expected. CT5 collapsed prior to the installation of the monitoring installation, and hence CT5A was put down adjacent to the position and installed with pipework.	Groundwater @ 2.80m installation at 3.50m bgl
CT6/CT6A	Located in the south of the western orchard area, where thinner overburden was expected. CT6 refused at 1.15m bgl, and therefore a secondary hole was put down adjacent to the original position, which in turn refused at 0.70m bgl. Therefore, CT6 was utilised as the installation borehole.	Dry at refusal depth 1.15m installation at 1.15m bgl
CT7	Located in the north of the western orchard area, where thinner overburden was expected.	Groundwater @ 2.0m installation at 3.0m bgl

Disturbed samples were taken at selected depths down to the base of the holes for subsequent laboratory testing and inspection. On completion, any uninstalled boreholes were carefully backfilled with arisings in thin layers, ensuring that the excavated material was replaced in the same order as it had been removed.

6.2 GROUND CONDITIONS

6.2.1 Summary

The site and laboratory test work revealed that the general succession of strata can be represented by Topsoil overlying highly variable and anthropogenic Made Ground, overlying River Terrace Deposits, overlying the Kellaways Formation. The downward succession was generally consistent across the site and was in accordance with the previous site investigations and expected geology. Descriptions of the strata encountered are given on the exploratory hole records and are summarised below. Further information is provided on the exploratory hole logs within the appendices.

6.2.2 Topsoil

Encountered at each of the exploratory holes from ground level to a depth of between 0.05m and 0.35m below ground level. The material generally consisted of a soft, dark-brown, silty sandy organic clay.

6.2.3 Made Ground

Encountered at each of the boreholes from beneath the topsoil, down to a depth of between 0.75m and 2.95m, seemingly deepening towards the south and east.

The material varied significantly from position to position across the site and has been rudimentarily delineated into three categories;

1. Made Ground (Reworked) – encountered nearer surface typically as a likely capping material, the soil mostly resembled natural soils, with small inclusion of anthropogenic material such as brick/concrete, but was otherwise a competent, seemingly unimpacted material.
2. Made Ground (Anthropogenic) – often encountered beneath the reworked material, but includes a proportion of anthropogenic material such as metal or ash, and as such does not resemble a reworked natural soil.
3. Made Ground (Heavily Anthropogenic) – often encountered beneath the reworked material and less anthropogenic soils, and includes a far higher proportion of anthropogenic materials such as metal, glass, plastic and rubber in large quantities, within the granular/cohesive matrix.

6.2.4 River Terrace Deposits

Encountered at each of the deeper exploratory locations from depths of between 0.75m and 2.95m (seemingly deepening towards the south and east), down to a depth of between 2.90m and >4.0m bgl. Represented in general as an interbedded cohesive and granular soil comprising high quantities of rounded gravels typical of a River Terrace Deposit.

6.2.5 Kellaways Formation

Encountered/inferred at four of the exploratory holes at depths exceeding 2.90m to 3.95m bgl to a depth exceeding the base of the boreholes at 4.0m bgl. In CT1, where the strata were encountered from 2.90m to >4m bgl as a stiff grey silty clay.

6.2.6 Groundwater

Groundwater was encountered within deeper exploratory holes at the site during the October 2025 intrusive works, at depths ranging from 2.20m to 2.85m bgl, predominantly within the River Terrace Deposits below the Made Ground in five of the six boreholes (where groundwater was identified) and locally at the base of the Made Ground at CT4.

Furthermore, monitoring of the seven standpipes, undertaken as part of the project, revealed the following groundwater levels.

Borehole	23/24 th Oct		4 th Nov 25		12 th Nov 25		3 rd Dec 25	
	Drilling Date							
	M BGL = below ground level / (m AOD = below ordinance datum)							
CT1	2.20m	51.7m	2.04m	51.86m	1.85m	52.05m	1.53m	52.37m
CT2	2.3m	51.7m	2.17m	51.83m	2.00m	52m	1.55m	52.45m
CT3	2.50m	51.64m	2.44m	51.7m	2.30m	51.84m	1.76m	52.38m
CT4	2.85m	51.63m	2.85m	51.63m	2.69m	51.79m	2.06m	52.42m
CT5A	2.80m	51.4m	2.65m	51.55m	2.50m	51.7m	1.77m	52.43m
CT6	Dry@1m/53.04m		Dry@1m/53.04m		Dry@1m/53.04m		Dry@1m/53.04m	
CT7	2.0m	51.86m	2.20m	51.66m	2.05m	51.81m	1.33m	52.53m

It is considered likely that the groundwater level is in continuity across the site, whether attributed to localised perched groundwater or a wider regional subsurface surface water. Groundwater levels rose across the site between 0.67m and 1.03m over the 41 days the site was monitored. On the initial three visits, a hydraulic gradient had been estimated for the site, showing a 0.078° to 0.091° angle dropping towards the southeast. These directions fit the ground model and wider regional understood flow patterns of the River Avon, which is known to flow southwards in this area, and it's down hydraulic gradient is anticipated to the southeast of the site. However, it is worth noting that on the last visit, when groundwater was at its shallowest recorded depth, the very shallow southeasterly gradient was far less pronounced.

Furthermore, the rise in groundwater is noted to have caused the Made Ground soils from CT3 and CT7 to sit within the monitored groundwater, along with CT4 identified during the initial intrusive works.

6.2.7 Infiltration Testing

After the groundwater sampling, three of the exploratory holes (CT1, CT3 & CT5A) were tested for their infiltration potential using the general methods set out in BRE 365. Locations were selected to give a good spread of information from across the site. The calculated infiltration rates and average infiltration rates for the specified locations are shown in the table below.

Location	Response Medium and Depth	Calculated Infiltration Rate			
		Test 1	Test 2	Test 3	Average
CT1	River Terrace Deposits between 1m and 2.04m depth	1.22x10 ⁻³ m/s	1.22x10 ⁻³ m/s	1.22x10 ⁻³ m/s	1.22x10 ⁻³ m/s
CT3	Heavily Anthropogenic Made Ground & RTD between 0.5m and 2.44m depth	8.18x10 ⁻⁵ m/s	-	-	-
CT5A	Reworked Made Ground & RTD between 1.0m and 2.60m bgl depth	1.99x10 ⁻⁵ m/s	-	-	-

The response zones for CT3 and CT5a were both predominantly situated within the respective Made Ground soils and provided far lower infiltration rates than the tests undertaken in CT1, situated within

the cohesive and granular River Terrace Deposits, which were extremely rapid and allowed for three tests to complete from ground level to the rest water level within two minutes per test.

6.2.8 *Ground Gas*

Ground gas monitoring was undertaken within the seven newly installed borehole standpipes as part of this investigation, on two occasions (the 12th of November and 3rd of December 2025) using a calibrated Gas Data GFM Series gas analyser.

The results revealed depleted oxygen levels of between 0.9% and 19.5% by volume, a carbon dioxide level of between 0% and 14.6% by volume, and a methane level below detectable limits.

Peak ground gas flow rates were recorded between 0l/hr and 0.9l/hr, with respective normal flow rates ranging from 0 to 0.0003l/hr.

Furthermore, monitoring of three unmarked boreholes encountered in the north of the site, which predate Geo-integrity Ltd's involvement, was also conducted. The boreholes were all 5m deep; however, no knowledge of response zones is known, as they do not correspond to previous investigation reports seen by Geo-Integrity Ltd.

The results revealed depleted oxygen levels of between 0% and 6.7% by volume, a carbon dioxide level of between 6.8% and 10.1% by volume, and a methane level below, ranging from 0.3% and 1.2% (with an associated LEL% ranging from 8.8% to 29.2%).

Peak ground gas flow rates were recorded between 0l/hr and 0.7l/hr, with respective normal flow rates ranging from 0 to 0.0004l/hr.

6.3 GEOENVIRONMENTAL TESTING

Geo-environmental laboratory testing was scheduled by Geo-Integrity on twelve soil samples recovered during the fieldwork, and six groundwater samples recovered on the 4th November 2025. The testing was carried out at an MCERTS and UKAS accredited laboratory. The results are presented in the Appendices.

Soil samples were tested for a varied suite containing the following;

-  Metals and inorganic substances
-  Speciated Polyaromatic Hydrocarbons (PAH)
-  Benzene, Toluene, Ethylbenzene and Xylene (BTEX)
-  Total Petroleum Hydrocarbons (TPH), with aliphatic/aromatic split
-  The presence or absence of Asbestos.
-  Ph
-  Fraction of Organic Carbon

Four natural River Terrace Deposits were selected, along with eight Made Ground (3 reworked, 1 anthropogenic, and 3 heavily anthropogenic) samples.

Furthermore, five samples of representative Made Ground (one reworked, two anthropogenic and two heavily anthropogenic) were tested for a single-stage inert WAC test for final waste classification.

Water samples were tested for a varied suite containing the following;

-  Metals and inorganic substances
-  Speciated Polyaromatic Hydrocarbons (PAH)
-  Total Petroleum Hydrocarbons (TPH), with aliphatic/aromatic split
-  Ph
-  Dissolved Organic Carbon
-  Dissolved Salts and Calcium Carbonate (Hardness).

7 GEO-ENVIRONMENTAL INTERPRETATION SECTION

7.1 RISKS TO HUMAN HEALTH

7.1.1 Introduction

Environment Agency guidance LCRM *Land Contamination: Risk Management*, (EA, 2019) states that human health risk assessment should be undertaken by a tiered approach using the source-pathway-receptor principle. A desk study constitutes the first tier, and an updated desk study and combined conceptual model using the information gathered from previous site works has been undertaken as part of this investigation. The conclusions of this updated Conceptual Site Model were that:-

“The natural geology for this area should include ~4-6m of River Terrace Gravels (a Secondary A Aquifer) overlying the Kellaways Formation, an unproductive aquifer, consisting predominantly as a mudstone – identified by the EA/BGS as an unproductive aquifer.

Based on these sources, it is inferred that the site, whilst agricultural in nature at present, has been the site of some form of cut and fill operation. There is no record of such activities occurring on the site, and based upon 1945 German aerial imagery, it is suspected that groundworks possibly occurred during the Second World War when record keeping was restricted and or was lost.

Based on the previously encountered ground conditions, it is considered likely that the area was excavated to a depth of between 1m and ~3m (deepening southwards), with the sand and gravel aggregate of the River Terrace Deposits extracted (possibly for the war effort). Following this, infilling of the area has occurred, firstly with a heavily anthropogenic soil (consisting of ash, metal, glass, plastic, wood, etc.) and then capped with a reworked soil, before being returned to agricultural use.

Recorded/document history only indicates that the site formed the western limit of an agricultural field until a date between 2006 and 2016, when the site was converted into its recent llama paddock usage, with the eastern site boundary/hedgerow separating the field from the sequence of roughly rectangular open paddocks, arranged north to south. At this time, an area of separated meadow/grassland had also been converted into the orchard area identified during the site walkover. Subsequent images dated 2020 and 2023 show additional barn structures constructed along the western site boundary in the northern site area, which have all been recently removed from the site along with all stored materials.

As such, during the recent October 2025 site walkover, there were no significant potential point sources of contamination encountered above ground. Notably, however, overturned ground from recent delineation trenching on the site had revealed significant anthropogenic materials within the near-surface Made Ground soils at the site.

Previous geoenvironmental risk assessments have as such identified a risk to end users from contact with elevated contaminants identified within the near-surface soils on site, and an engineered soil cover system has been recommended.

Conversely, the leachate results from multiple investigations have shown that these elevated levels are restricted to low mobility compounds such as Metals and PAHs, and as such, there has not been a significant risk considered likely to significantly impact/harm nearby controlled waters or groundwater.

Additionally, ground gas risk assessments have identified that elevated ground gases (methane and carbon dioxide) are present at the site, in conjunction with elevated flow levels, and as such, it has been recommended that zone gas protection measures be employed at the site to protect end users."

Therefore, as part of the investigation, further chemical testing has been undertaken at the site to further the understanding of and risks to the development. Results are analysed under the second tier, known as a Generic Quantitative Risk Assessment (GQRA), which uses generic guideline values to compare site chemical data against, and the final tier would be a Detailed Quantitative Risk Assessment (DQRA), which use data derived from the ground investigation to assess risks to identified receptors.

The assessment included in this report comprises a GQRA, which is undertaken by comparing soil contaminant concentrations from this investigation with conservative Generic Assessment Criteria (GAC). GAC for various land use and exposure scenarios have been selected from the following sources:

-  CL:AIRE Category 4 Screening Levels (C4SL);
-  LQM Suitable for Use Levels (S4UL);
-  CL:AIRE/EIC/AGS GAC

The GACs have been derived using the Environment Agency Contaminated Land Exposure Assessment (CLEA) model, for a range of land uses and exposure scenarios, including:

-  Residential with the consumption of home-grown produce;
-  Residential without the consumption of home-grown produce;
-  Commercial;
-  Allotments;
-  Public Open Space near residential housing (POS_{resi}); and
-  Public Open Space public park scenario (POS_{park})

It is considered that, as the development at the site will include a new residential development with private gardens and communal soft-landscaped areas, that for the purposes of this assessment, a “Residential with the consumption of home-grown produce” has been selected.

7.1.2 Results of Soil Chemical Testing

Of the twelve soil samples screened as part of this investigation, screened against the relevant GAC for a ‘Residential with the consumption of home-grown produce’ land use scenario as described above, three samples have exceeded the relevant GACs.

Notably, none of the four natural river Terrace Deposit Samples recorded elevated values above the GAC, and the exceedances were limited to the following Made Ground Samples;

-  Reworked Made Ground from CT5 at 0.20m depth – elevated lead
-  Anthropogenic Made Ground from CT4 at 0.70m depth – arsenic, cadmium, copper, nickel, lead and zinc.
-  Heavily Anthropogenic Made Ground from CT3 at 1m depth – Arsenic, lead & PAHs.

7.1.2.1 Asbestos

Screening for the presence of asbestos did not reveal any asbestos-containing material (ACM) or fibres in the twelve samples of soils tested.

7.1.2.2 TPH BTEX & MTBE

Screening for the presence of TPH, BTEX & MTBE in the twelve samples of soil tested, and did not record any elevated values above their respective GACs.

7.1.3 Risk to End Users

Given the results of the past investigations, intrusive investigations and combined laboratory testing it is currently considered there persists an elevated risk to end users of the site from the Made Ground at the site (of all forms) which recorded some elevated values metals and PAHs locally within the Made Ground near surface across the site, and it has been established that this will provide a risk to end users of the site (should a pathway be available) and to construction workers during the groundworks.

7.1.4 Risk to Surrounding Residents and Construction Workers

Given the results of the intrusive investigation and laboratory testing, it is considered that there is no further significant risk to surrounding residents of the site, other than those encompassed by the risk to end users (see the above section).

However, it is considered that there is an elevated risk to construction workers at the site (particularly ground workers) from contact with the Made Ground across the site. To break the pollutant linkage, several measures are discussed below.

7.2 HUMAN-HEALTH REMEDIAL MEASURES OR FURTHER WORK REQUIRED

The Made Ground at the site (of all forms) recorded some elevated values of heavy metals and PAHs locally within the Made Ground near surface across the site, and it has been established that this will provide a risk to end users of the site (should a pathway be available) and to construction workers during the groundworks.

7.2.1 Reducing Risk to End Users

To break the exposure pathways to site users, it is considered that the pathway between the contaminated Made Ground and end users needs to be broken. A cover system could be engineered in the areas of soft-landscaping, which are those areas of soft landscaping and communal planting on the site. Such a cover system would require a 600mm layer of clean cover, consisting of at least 150mm of topsoil. This cover system is not required in areas of hardstanding (car parks, patios and under the building), where this will break the pathway between contaminated soils and site users.

Outside of private gardens, in areas of communal soft-landscaping/BNG areas, a reduced thickness of 300mm (consisting of at least 150mm of clean topsoil) may be permitted. However, this should be agreed with the Local Authority and warranty providers at the earliest opportunity.

Given the materials encountered, it is also considered that a separator layer/demarcation layer should be implemented to prevent deeper excavation beyond the cover system. Membranes should be synthetic rot-proof, chemical-resistant, water permeable and have a high tensile strength.

During the development, it is recommended that this process of placing the cover layer is tightly monitored and recorded (soil tests, photographs, depth measurements, etc) as it is likely that a verification report will be required to prove its existence to Local Authorities or financing organisations (mortgage companies, etc).

7.2.2 Reducing the Risk to Construction Workers

The major exposure routes of concern for the contamination encountered are dermal contact, ingestion and inhalation of dust from the Made Ground soils at the site. For the construction workers, remedial measures would not be in place when they undertake the site work, and therefore, different measures should be taken to reduce the risk of coming into contact with the soil and break the pollutant linkage with these receptors.

To reduce the risk to as low as reasonably practicable for the construction workers, it is recommended that, high standards of personal hygiene should be maintained amongst the site personnel at all times. All personnel coming into contact with the soil, ground workers in particular, should be instructed to use gloves when on site to avoid dermal contact and restrict inadvertent hand-to-mouth ingestion. Washing facilities should be provided for the site staff to use, and should be used prior to eating or smoking. Reference should be made to the HSE Document, "Protection of Workers and the General Public during Development of Contaminated Land".

It is also recommended that a watching brief for undiscovered contamination is included in the Works Method Statement. Given the long human history of the surrounding area, it is always possible that some previous undiscovered contamination may be encountered. If this is the case, the area should be isolated and contact made to a suitably qualified professional for further advice. This is particularly important if the contamination is possibly ACM or liquid-based.

7.3 POST REMEDIATION VERIFICATION

Any remedial measures undertaken at the site will require independent verification once completed to satisfy the relevant regulatory authorities and other interested parties, including future owners of the site, banks, insurers and mortgage companies. This usually involves a small validation investigation to confirm that the recommended work has been successful.

7.4 RISK TO CONTROLLED WATERS

The assessment of risks to controlled waters follows guidance provided by the Environment Agency, CL: AIRE and DEFRA in association with the Contaminated Land (England) Regulations 2000 (SI 2000/227). This guidance is the Environment Agency's Remedial Targets Methodology *Hydrogeological risk assessment for contaminated land* (2006) and *Petroleum Hydrocarbons in Groundwater CL:AIRE 2017*, and as such, these procedures have been followed.

The hydrogeological conceptual site model derived from the previous and recent ground investigations has identified that groundwater at the site fluctuates between 0.58m and 2.85m bgl (recorded at 51.40m and 52.53m AOD), situated within the highly permeable River Terrace Deposits and overlying lower permeability variable Made Ground deposits.

The natural geology for this area should include ~4-6m of River Terrace Gravels a Secondary A Aquifer) – (now significantly reduced) overlying the Kellaways Formation, an unproductive aquifer, consisting predominantly as a mudstone – identified by the EA/BGS as an unproductive aquifer.

Based on historical sources, it is inferred that the site, whilst agricultural in nature at present, has been the site of some form of cut-and-fill operation. There is, however, no record of such activities occurring on the site, and based upon 1945 German aerial imagery, it is suspected that groundworks possibly occurred during the Second World War when record keeping was restricted and or was lost.

Based on the encountered ground conditions, it is considered likely that the area (including the far larger area to the east) was excavated to a depth of between 1m and ~3m (deepening southwards), with the sand and gravel aggregate of the River Terrace Deposits extracted (possibly for the war effort). Following this, infilling of the area has occurred, firstly with a heavily anthropogenic soil (consisting of ash, metal, glass, plastic, wood, etc.) and then capped with a reworked soil, before being returned to agricultural use.

Previous geoenvironmental risk assessments have identified elevated contaminants within the near-surface soils on site, and an engineered soil cover system has been recommended. However, the leachate results from multiple investigations have shown that these elevated levels are restricted to the soils and low mobility compounds such as Metals and PAHs, and as such, there has not been a significant risk considered likely to significantly impact/harm nearby controlled waters or groundwater historically.

It is considered likely that the groundwater level is in continuity across the site, whether attributed to localised perched groundwater or a wider regional subsurface surface water. Groundwater levels rose across the site between 0.67m and 1.03m over the 41 days the site was monitored. On the initial three visits, a hydraulic gradient had been estimated for the site, showing a 0.078° to 0.091° angle dropping towards the southeast. These directions fit the ground model and wider regional understood flow patterns of the River Avon, which is known to flow southwards in this area, and it's down hydraulic gradient is anticipated to the southeast of the site. However, it is worth noting that on the last visit, when groundwater was at its shallowest recorded depth, the very shallow southeasterly gradient was far less pronounced.

The wider hydrology of the area includes the River Avon curving and flowing around from the northeast (within 430m to 538m of the site), around to the east (~750m of the site), before flowing southwards away from the site, which is where the nearby inland river tributary connects to the River Avon approximately 930m southeast of the site.

The nearest surface watercourse is an inland river (drain feature) located 150m southwest of the site. This inland river feature appears to flow towards the River Avon in a southeasterly direction away from the site.

The River Avon in this area is recorded to have an overall rating of moderate, an ecological rating of moderate and a chemical rating of fail (dated 2019).

There are no current potable surface water or groundwater abstraction licenses located within 2000m of the site. However, there is a single active surface water abstraction license located within 2000m of the site, located 1845m south of the site, for spray irrigation purposes, and a single active groundwater abstraction license located within 2000m of the site, located 1839m south of the site.

An assessment of the vulnerability of groundwater to a pollutant discharged at ground level has been determined for the area by the British Geological Survey and the Environment Agency, based on the hydrological, geological, hydrogeological and soil properties within a square kilometre grid. Groundwater vulnerability for the superficial aquifer is recorded as a high vulnerability; however, as the bedrock is recorded as unproductive strata, the bedrock is not considered to be vulnerable.

Given the above, the natural soil/surface leaching class is recorded as high with an Infiltration value of >70% and a Dilution value of 300-550mm/year. The superficial geology Secondary A aquifer is recorded with a thickness of <3m and a patchiness value of >90%, along with a recharge potential

of medium. Conversely, the underlying unproductive bedrock geology is not recorded to be vulnerable, with flow mechanisms restricted to well-connected fractures.

Additionally, whilst the site is recorded to be located outside of any normal Source Protection Zones, however, the site is situated within a confined aquifer source protection zone - type 2c (Outer catchment within confined aquifer). Source Protection Zones in the confined aquifer define the sensitivity around a deep groundwater abstraction to contamination. A zone 2c (confined) is defined with a travel time of 400 days from a distant recharge area to the protected Aquifer, conservatively estimated as the underlying Jurassic limestones, which are at significant depth, predicted to be 30m beneath the site itself. A confined aquifer would normally be protected from contamination by overlying geology and is only considered a sensitive resource if deep excavation/drilling is taking place.

7.5 RESULTS OF CHEMICAL ANALYSIS

On the 4th November 2025, two weeks after drilling, we reattended the site and purged the boreholes in order to collect groundwater samples from each of the installations installed in October 2025. All but one borehole (CT6) contained standing levels. Boreholes were purged for three times their well volumes prior to sampling.

Of the six water samples screened as part of this investigation, results again show relatively low values in comparison to the total soil concentrations.

-  No significant PAHs were identified, and all were below respective EQS thresholds.
-  Background petroleum hydrocarbons levels were also all below the WHO thresholds listed under Table 5.4 of the Cl:AIRE guidance: Petroleum Hydrocarbons in Groundwater – Guidance on assessing petroleum hydrocarbons using existing hydrogeological risk assessment methodologies.
-  All concentrations were below their respective UK Drinking Water standard thresholds – excluding CT5, where a nominally/marginally elevated boron level was identified at 1.04mg/l, and the UKDWS is 1.0mg/l; all other readings of boron ranged from 0.123mg/l to 0.534mg/l. For comparison, the EQS for boron is 2.2mg/l, the WHO drinking water standard is 2.4mg/kg, and as the UKDWS is a compliance point at the tap and boron is not a priority substance under WFD, these levels are not of concern.

-  Excluding manganese, all concentrations are also below the EA Environmental Quality Standards (EQS) when taking into account the calcium content (hardness) and dissolved organic carbon content using the EA m-bat tool.

7.5.1 Risk to Underground Water Supply Pipes

Based upon the guidance document from the UK Water Industry Research (UK WIR), 'Contaminated Land Assessment Guidance', February 2014, and the results of the samples tested from the site, it is considered that barrier pipe should, however, be used due to background levels of test group concentrations encountered. This should be confirmed with the local water company, as not all authorities use this guidance.

7.5.2 Manganese

Elevated manganese has been detected within two of the six groundwater samples collected. Manganese concentrations ranged from 98ug/l to 5540ug/l, which correspond to a Site-specific PNEC Dissolved Manganese ranging from 851ug/l⁻¹ to 1846ug/l⁻¹, a Bioavailable Manganese Concentration ranging from 86ug/l⁻¹ to 504ug/l⁻¹ and a corresponding risk characteristic ratio ranging from 0.1 to 4.10. The two exceedances were sourced from CT3 and CT4, located centrally at the site, and reported risk characterisation ratios of 4.10 and 2.02 were calculated for these exceedances, respectively. Using the mbat tool, any risk characterisation ratio greater than 1 indicates non-compliance with the bioavailable Environmental Quality Standard (EQS) and is therefore flagged as a regulatory failure.

7.6 MANGANESE

7.6.1 Detailed Groundwater Risk Assessment using RTM

A Hydrogeological Risk Assessment for Land Contamination using the Environment Agency's Remedial Targets Worksheet v3.2 has been conducted for the locally elevated manganese within the groundwater.

7.6.1.1 Parameter Choices

The following general parameters were used, and for the following reasons:-

Property	Value	Reason
Width of plume (m)	47	Width of site perpendicular to GW flow
Plume thickness (m)	4.24	From shallowest groundwater to Kellaways
Aquifer thickness (m)	4.24	From shallowest groundwater to Kellaways
Bulk Density (g/cm ³)	1.9	Based on empirical values of granular soils
Effective porosity (fraction)	0.35	Conservatively estimated based on soil type.
Hydraulic gradient (fraction)	0.00158	Calculated based on the highest gradient
Hydraulic conductivity (m/d)	105.41	Based on the CT1 falling head test
Distance to compliance point (m)	10,60,300	Three values: 1. to the site boundary, 2. 50m beyond that and 3. Distance to closest surface water feature. (All distances are parallel to the flow direction.
Soil Water Partition Coefficient (l/kg)	57	Lowest/Worst case calculated using chemical test data from CT3/4

7.6.1.2 Risk Assessment

Using the above parameters, RTM worksheets were undertaken for Level 3 groundwater remedial targets with compliance points of:

-  10m - equivalent to the site boundary, parallel to the hydraulic gradient.
-  60m – equivalent to 50m beyond that boundary, parallel to the hydraulic gradient.
-  300m – equivalent to the distance to the closest watercourse (tributary of the Avon), parallel to the hydraulic gradient.
-  870m - equivalent to the distance to the Avon (actual) southeast of the site, parallel to the hydraulic gradient.
-  1.8km - equivalent to the distance to the nearest active surface/groundwater abstractions

The results of these worksheets are as follows:-

	Maximum Recorded Groundwater	GW Remedial Target (EQS)	GW 10m Compliance Point	GW 60m Compliance Point	GW 300m Compliance Point	GW 870m Compliance Point	GW 1800m Compliance Point

Manganese	5540ug/l	123ug/l	5540ug/l	4880ug/l	578ug/l	72.8ug/l	17.1ug/l
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As can be seen, the groundwater within the area of CT3/4 would require remediation if the compliance point were set to the site boundary, 50m compliance point (likely within the worst area of cut-and-fill) and the closest watercourse (unnamed drainage ditch/tributary of the Avon).

However, as can be seen, the groundwater within the area of CT3/4 would not require remediation should the compliance point be set at the closest part of the river Avon (actual) situated 870m down hydraulic gradient from the site. The Avon (actual) is shown not to be at risk from the elevated manganese identified locally on site, as levels are calculated to be well below the EQS.

By extension, the closest active abstraction licences situated over 1.8km from the site are shown not to be at risk from the elevated manganese identified locally on site, as levels are calculated to be well below the EQS.

Potential remedial measures are discussed below, but these should be confirmed with a specialist remediation contractor.

Although given that the site has been shown to consist of the very western limit of a cut and fill operation, with the land to the east inferred to consist of deeper and wider ranging contaminates backfilled (which are considered to be the source of the contamination), remediation of the site area itself is not considered to significantly inhibit such contamination from the wider area impacting the controlled waters, as these are situated down hydraulic gradient from the site. Therefore, remediation of the impacted area within the site is unlikely to provide any significant overall protection to groundwater or controlled waters, with the adjacent land (outside of the confines of the site) considered to pose a higher risk to both groundwater or controlled waters and the site itself. Furthermore, the River Avon has a chemical rating of fail (dated 2019) in this area.

Furthermore, development of the site itself will inherently cap the site, with low-permeability surfacing and structures, reducing the mobility of any existing contaminants.

The Environment Agency is the regulatory body charged with the protection of controlled waters and may be a consultee in the planning process.

We recommend that the conclusions of this report are agreed with the relevant Local Authority at the earliest stage, to reduce potential delays to the development, particularly the need for remediation

to begin with, under the nature of the adjacent land usage, and with respect to the determined target concentration.

8 PRELIMINARY CONTROLLED WATERS REMEDIAL MEASURES OR FURTHER WORK REQUIRED

8.1 INTRODUCTION

Elevated levels of manganese were encountered in the groundwater on site, which locally exceed the EQS and site-derived mbat assessment tool. The elevated levels were encountered within two of the six sampling locations within the central eastern section of the site, close to the site's eastern boundary.

The site has been identified to form the western limit of a larger unrecorded 1940s cut and fill operation, whereby the granular River Terrace Deposits are thought to have been extracted (possibly during wartime), with heavily anthropogenic materials redeposited in their place, and capped with a reworked soil before returning the land to agricultural usage in the 1950s.

Historical reporting inferred that higher and more wide-ranging contamination was present within the land to the east of the site, which included asbestos and significant petroleum hydrocarbons (neither of which was present on the site itself). As such given that on site the levels of manganese are limited to a risk characterisation ratio of 4.10 the chemical rating of “fail” for the River Avon in the area, and the lack of any significant pathway to the confined aquifers (under the zone II SPZ), the risks to the identified water receptors from the site area itself are considered to be marginal, with respect to the impacted and un-remediated land to the east, and therefore remediation of the impacted area of the site itself is considered to be inconsequential in improving the groundwater quality in this area.

8.1.1 Groundwater Remediation Options

Should the Local Authority and Environment Agency disagree with the above consideration, then there are a few methods for undertaking the remediation of manganese-impacted groundwater.

The most widely applied approach is oxidation followed by filtration, where dissolved manganese is converted into insoluble oxides using oxidants such as chlorine, ozone, or potassium permanganate, and then removed through sand or greensand filters. Adsorption techniques using manganese oxides or modified mineral media are also effective, as these materials both catalyse oxidation and provide strong sorption sites.

In some cases, bioremediation is employed, stimulating naturally occurring manganese-oxidising bacteria to immobilise manganese in situ. More advanced options include membrane processes, ion exchange, and electrocoagulation, which can achieve high removal efficiencies but are generally reserved for sites with stricter discharge or drinking water requirements. It is believed that the choice of method largely depends on whether treatment is carried out in-situ or ex-situ, and it is considered that should dewatering be required, then ex-situ would be a sensible approach; however, should dewatering of the site not be required as part of the proposed development (i.e. piling), then in-situ works may be more cost-effective.

If the impacted land to the east is not taken into consideration, or a reasonable adjustment by the LA/EA, then the Remedial Target Methodology worksheets undertaken and described above indicate remedial targets that will be required within the groundwater beneath to stop ongoing pollution of the Secondary A Aquifer.

In that case, the compliance point should be set at the site boundary (10m south of the plume), so that giving remedial targets of manganese should not exceed 123ug/l, remediation would be required. This should be agreed with the Environment Agency. The area of the site where remediation will be required is around the area of CT3 and CT4.

The exact methodology for the remediation of groundwater should be agreed upon and documented by a remediation specialist.

Therefore, it is important to enter into dialogue between the Environment Agency and Local Authority, as it is considered that localised remediation of the site would be fruitless, and likely to lead to a “re-contamination” from the land to the east.

9 WASTE DISPOSAL CLASSIFICATION

9.1 INTRODUCTION

Excavation for foundations or services will produce waste soil and possibly other waste streams. As a waste producer, you have a duty of care under section 34 of the Environmental Protection Act 1990 to ensure, amongst other things, that these wastes are: -

-  Correctly stored
-  Correctly classify
-  Handed only to an authorised person
-  Disposed of properly.

To aid with these obligations, we have used HazWasteOnline to undertake the Hazard Assessment Screen as part of this investigation, to establish whether the sampled soils should be considered as either hazardous or non-hazardous waste. This classification process is in line with the Environment Agency's guidance WM3 "Guidance on the classification and assessment of waste", 2021.

9.2 CHEMICAL TESTING

Geo-environmental laboratory testing was scheduled by Geo-Integrity on twelve soil samples recovered during the fieldwork, and six groundwater samples recovered on the 4th November 2025. The testing was carried out at an MCERTS and UKAS accredited laboratory. The results are presented in the Appendices.

Soil samples were tested for a varied suite containing the following;

-  Metals and inorganic substances
-  Speciated Polyaromatic Hydrocarbons (PAH)
-  Benzene, Toluene, Ethylbenzene and Xylene (BTEX)
-  Total Petroleum Hydrocarbons (TPH), with aliphatic/aromatic split
-  The presence or absence of Asbestos.
-  Percentage hydrogen
-  Fraction of Organic Carbon

Four natural River terrace Deposits were selected, along with eight Made Ground (3 reworked, 1 anthropogenic, and 3 heavily anthropogenic) samples.

Furthermore, five samples of representative Made Ground (one reworked, two anthropogenic and two heavily anthropogenic) were tested for a single-stage inert WAC test for final waste classification.

9.3 RESULTS OF HAZARD ASSESSMENT

The full results of the HazWasteOnline analyses can be seen in the Appendices.

The HazWasteOnline classification summary sheet from this investigation provides a waste classification of non-hazardous waste for each of the four natural River Terrace Deposits samples tested.

However, the HazWasteOnline classification summary sheet from this investigation provides a waste classification of hazardous waste for three of the eight samples tested. The hazardous samples were recorded from the following locations and substrata;

-  Heavily Anthropogenic Made Ground from CT2 at 1.20m
-  Heavily Anthropogenic Made Ground from CT3 at 1.0m
-  Anthropogenic Made Ground from CT4 at 0.70m

Additionally, no visible pieces of asbestos were detected (by the naked eye) in any of the exploratory holes or laboratory screening of the twelve samples tested. Therefore, asbestos was not considered further from a waste perspective.

9.3.1 Waste Acceptance Criteria (WAC) Testing Results

To further classify the waste soil for landfill disposal, Waste Acceptance Criteria (WAC) testing has been carried out on five samples of representative Made Ground (one reworked, two anthropogenic and two heavily anthropogenic) were tested for a single-stage inert WAC test for final waste classification. The samples tested are listed below, along with their classifications after WAC analysis;

-  Anthropogenic Made Ground from CT1 from 0.50m – Non-Hazardous – failed the inert criteria due to elevated TOC.
-  Heavily Anthropogenic Made Ground from CT3 at 1.0m – Hazardous – failed the stable non-reactive criteria due to elevated TOC and LOI.
-  Anthropogenic Made Ground from CT4 at 0.70m - Hazardous – failed the stable non-reactive criteria due to elevated TOC.
-  Heavily Anthropogenic Made Ground from CT4 at 2.0m – passed the Inert criteria.
-  Reworked Made Ground from CT5 at 0.20m – passed the inert criteria.

Furthermore, uncontaminated soil can be classified as inert without testing, in accordance with EU Council Decision 2003/33/EC para. 2.1.1. As such, given the testing results, currently the underlying unimpacted River Terrace Deposit soils and Kellaways soils from the site can be disposed of at an INERT Landfill site. In addition, the HazWasteOnline results corroborate this.

Analytical results relevant to the materials being disposed of should be provided to the landfill operators or waste management contractors to confirm whether it meets their license agreements and to confirm tipping costs.

All wastes removed from the site should be consigned, transported, and disposed of in full accordance with all relevant UK legislation.

9.4 WASTE CLASSIFICATION

From the results of the HazWasteOnline spreadsheets and the WAC testing, currently, the waste soil on this site is classified as follows.

Stata/ Waste Stream	Description of Material	Recommended Classification	Recommended List of Waste code	Recommended Landfill Tax Rate
Made Ground – Reworked	Naturally occurring soils and stones (subsoil), including small amounts of Group 2 Materials:- concrete.	Inert	17 05 04	Lower Rate
Made Ground – Anthropogenic	Naturally occurring soils and stones (subsoil), including large amounts of Group 2 Materials:- concrete.	Hazardous	17 05 03	Standard Rate
Made Ground – Heavily Anthropogenic		Hazardous	17 05 03	Standard Rate
Natural Soil	Naturally occurring soils and stones (subsoil)	Inert	17 05 04	Lower Rate

The natural soils are considered to be taxable at the lower rate. Additionally, under section 63(2) of the Finance Act 1996, it states where a disposal to landfill consists mainly of qualifying material(s), but includes a small amount of standard-rated material, the whole load is taxable at the lower rate.

As such, the reworked Made Ground soils are considered to be taxable at the lower rate. However, as the anthropogenic and heavily anthropogenic soils contain a significant amount of standard-rated material as such they do not fall under this section allowance.

Excavations of materials on site should be planned so that the differing Made Ground materials are not mixed, and can be stored/stockpiled separately prior to removal from the site.

Analytical results relevant to the materials being disposed of should be provided to the landfill operators or waste management contractors to confirm whether it meets their license agreements and to confirm tipping costs.

All wastes removed from the site should be consigned, transported, and disposed of in full accordance with all relevant UK legislation.

9.5 RE-USE OF MATERIAL ON SITE

Currently, if surplus arisings are 'fit for re-use' on the site and have not been treated, its re-use is allowed within the planning law. If it needs treating prior to re-use, exemptions can be sought from the Environment Agency to allow this activity.

However, based upon the human health and groundwater risk assessments, the Made Ground soil (of all forms) is not currently considered suitable for re-use on site.

10 GEOTECHNICAL IMPLICATIONS & AFFECTED DESIGN CONSIDERATIONS

10.1.1 Piled Foundations

Given the presence of thick Made Ground across the site, a piled foundation solution is anticipated to be the most appropriate option. Piles would extend through the Made Ground and terminate within the underlying River Terrace Deposits and Kellaways Sand Member.

Prior to commencement of works, the advice of specialist piling contractors should be sought to determine the most suitable piling technique and pile type for the specific ground conditions encountered.

Safeguarding groundwater quality is imperative. To minimise the risk of contamination, driven piles must not be employed at this site. Alternatively, a bored, cast-in-situ pile system is considered the most appropriate solution, subject to detailed design and regulatory approval.

The site lies within a confined aquifer Source Protection Zone (SPZ) type 2c (Outer catchment within confined aquifer). SPZs in confined aquifers delineate areas of sensitivity around deep groundwater abstractions. While confined aquifers are typically protected by overlying geology, they are regarded as sensitive resources where deep excavation or drilling is undertaken. Consequently, the Environment Agency is expected to be involved in the review and approval of the piling design.

To avoid compromising aquifer integrity, piles must not penetrate beyond the Kellaways Formation, which is classified as unproductive strata. Limiting pile depth to this formation is essential, as the underlying Jurassic strata (including the Cornbrash) are locally productive aquifers and may fall within the type 2c SPZ. Geological records indicate that the Kellaways Formation extends to depths greater than 15m below the site, while borehole data from Sutton Benger suggest that Jurassic strata/limestones are present at approximately 30m beneath the site.

10.2 INFILTRATION MEASURES

While appropriately designed Sustainable Drainage Systems (SuDS) are generally preferred over conventional piped connections to local sewer networks, the specific ground conditions at this site necessitate a cautious approach. The presence of impacted anthropogenic Made Ground introduces a significant risk of further mobilising contaminants into the underlying strata.

For this reason, infiltration-based measures such as conventional soakaway systems are not recommended. The Environment Agency would likely see that allowing surface water to percolate through the Made Ground may present an unacceptable risk to groundwater quality beneath the site.

Alternative SuDS solutions that do not rely on infiltration, such as attenuation tanks, lined basins, or controlled discharge to the sewer system, could be considered to achieve sustainable drainage objectives while safeguarding groundwater resources.

10.3 GAS PROTECTION

The updated conceptual ground model for the site, undertaken as part of this investigation, identified that Information obtained from the BGS and the National Geoscience Information Service indicates that the site lies within an area where less than 1% of homes exceed the action level of 200Bq/m³ for radon gas. Therefore, no radon protection measures are necessary in the construction of new dwellings or extensions on this site.

However, previous ground gas risk assessments have identified that elevated ground gases (methane and carbon dioxide) are present at the site, in conjunction with elevated flow levels, and as such, it was recommended that zone gas protection measures be employed at the site to protect end users. As such, a high risk was considered for the proposed development from ground gases.

Therefore, additional ground gas monitoring was undertaken within the seven newly installed borehole standpipes as part of the groundwater monitoring undertaken as part of this investigation, on two occasions (the 12th of November and 3rd of December 2025) using a calibrated Gas Data GFM Series gas analyser. The additional boreholes were located across the site and across both the previously defined CS2 & CS3 areas.

The results again revealed depleted oxygen levels of between 0.9% and 19.5% by volume, elevated carbon dioxide level of between 0% and 14.6% by volume, but no methane levels (all below detectable limits).

However, peak ground gas flow rates were recorded at lower levels between 0l/hr and 0.9l/hr, with respective normal flow rates ranging from 0 to 0.0003l/hr.

Furthermore, monitoring of three unmarked boreholes encountered in the north of the site, which predate Geo-integrity Ltd's involvement, was also conducted. The boreholes were all 5m deep; however, no knowledge of response zones is known.

The results again revealed depleted oxygen levels of between 0% and 6.7% by volume, elevated carbon dioxide level of between 6.8% and 10.1% by volume, and a methane level, ranging from 0.3% and 1.2% (with an associated LEL% ranging from 8.8% to 29.2%).

Low peak ground gas flow rates were again recorded between 0l/hr and 0.7l/hr, with respective normal flow rates ranging from 0 to 0.0004l/hr.

Based on the conditions measured during the 2025 monitoring visits (2 number), In accordance with BS8485:2015 and CIRIA C665, 2007 the site would only be classified as a Characteristic Situation 2 (CS2).

However, previously, the risk of ground gases impacting the site was assessed by the Elemental GI Ltd, Phase 2 Geo-Environmental Investigation Report dated April 2023, which included monitoring of three ground gas monitoring wells on the site, which identified elevated ground gas, and determined that protection measures will be needed in all new buildings.

Based upon gas monitoring results of the three boreholes, it was considered that a large proportion of the site would be subject to ground gas protection characteristic Situation CS3 (CIRIA 149) due to similarly low oxygen (4.7%), along with elevated carbon dioxide (7%) and methane (0.60%), concurrent with high recorded flow rates (15.2l/hr).

From this, it was deduced that future buildings at the site will need to have ground gas protection measures installed as part of their construction. Given this variability of ground gas results, a conservatively zoned approach was recommended at the site, subject to regulatory authority/warranty provider approval. The report recommended that ground gas protection could be zoned to the following plots:

-  CS2: Plots 1 to 3 and Plots 18-19
-  CS3: All Remaining Plots (4 to 17)

They considered that in accordance with BS8485, the proposed residential end-use type here would require 4.5 No. 'points' in CS3 areas, and 3.5 No. 'points' in CS2 areas to benefit from sufficient protection from ground gas.

Given that the findings of this and the previous investigations have identified that the site is part of a large area of cut-and-fill where highly variable Made Ground soils are present, the risk of elevated ground gases and flow rates cannot be discounted, based on the recent two visits alone. As such, it is recommended that the CS3 recommendation stands, pending any future long-term ground gas monitoring (months/daily).

CIRIA C735 has recognised that verification is a key component of gas protection and, as such, we recommend that a ground gas protection verification strategy plan (VSP) be produced to present to

the regulators. Full details of gas concentrations and gas flow data recorded during the geo-integrity monitoring visits are given in the Appendices.

11 RECOMMENDATIONS

- We recommend a watching brief should be undertaken during the construction phase, and if during development any previously undiscovered contamination (including visual or olfactory evidence) such as asbestos is found then site management should be immediately informed and inspection by a suitably qualified person should be undertaken.
- It is also recommended that a Gas Verification Strategy Plan be produced in accordance with CIRIA C735, as this is likely to be required by the Local Authority regulators.
- A contaminated land piling risk assessment report maybe required the LA or EA prior to finalisation of the foundation design.

11.1 CONTROLLED WATERS RISK

Elevated levels of manganese were encountered in the groundwater on site, which locally exceed the EQS and site-derived mbat assessment tool. The elevated levels were encountered within two of the six sampling locations within the central eastern section of the site, close to the site's eastern boundary.

The site has been identified to form the western limit of a larger unrecorded 1940s cut and fill operation, whereby the granular River Terrace Deposits are thought to have been extracted (possibly during wartime), with heavily anthropogenic materials redeposited in their place, and capped with a reworked soil before returning the land to agricultural usage in the 1950s.

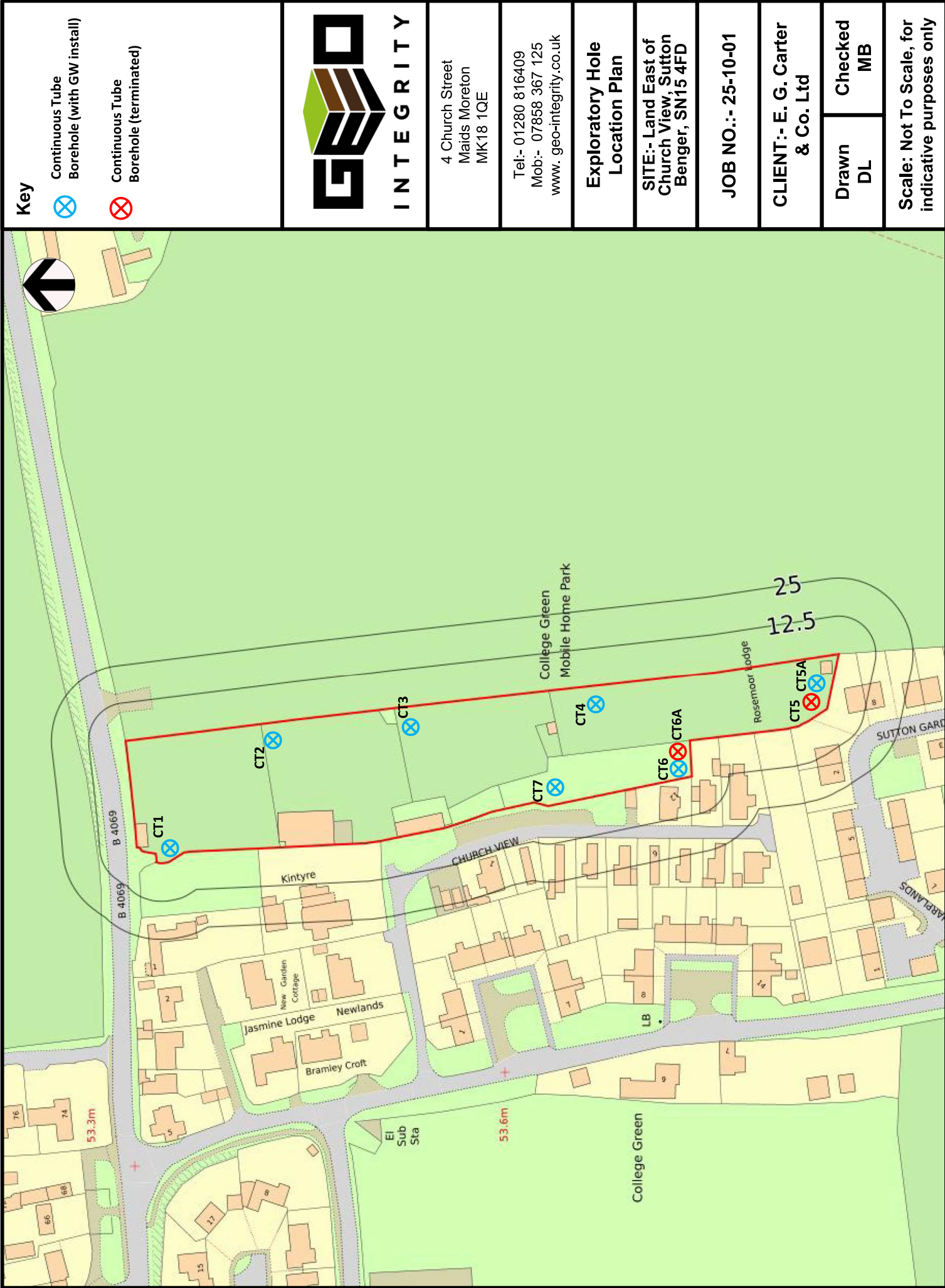
Historical reporting inferred that higher and more wide-ranging contamination was present within the land to the east of the site, which included asbestos and significant petroleum hydrocarbons (neither of which was present on the site itself). As such given that on site the levels of manganese are limited to a risk characterisation ratio of 4.10 the chemical rating of “fail” for the River Avon in the area, and the lack of any significant pathway to the confined aquifers (under the zone II SPZ), the risks to the identified water receptors from the site area itself are considered to be marginal, with respect to the impacted and un-remediated land to the east, and therefore remediation of the impacted area of the site itself is considered to be inconsequential in improving the groundwater quality in this area.

Therefore, it is important to enter into dialogue between the Environment Agency and Local Authority, as it is considered that localised remediation of the site would be fruitless, and likely to lead to a “re-contamination” from the land to the east.

Should the Local Authority and Environment Agency disagree with the above consideration, then there are a few methods for undertaking the remediation of manganese-impacted groundwater discussed under section 8 of this report. The exact methodology for the remediation of groundwater should be agreed upon and documented by a remediation specialist.

12 REFERENCES

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- National House Building Council (NHBC) Standards, Chapter 4.2 Building Near Trees. 2011.
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- Health and Safety Executive (HSE), “Protection of Workers and the General Public during Development of Contaminated Land” HS(G) 66. HMSO London 1991.
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- BGS Geology of Britain Viewer: 2016. www.bgs.ac.uk. British Geological Survey.
- BRE Special Digest 1: 2005: Concrete in aggressive ground. Building Research Establishment.
- BS 1377: 2018: Methods of test for soils for civil engineering purposes. British Standards Institution.
- BS 5930: 2015+A1 2020: Code of practice for ground investigations. British Standards Institution.
- BS EN 1997-2: 2007+NA 2009: Eurocode 7 - Geotechnical design - Part 2 Ground investigation and testing. British Standards Institution.
- BS EN ISO 14688-1:2018: Geotechnical investigation and testing - Identification and classification of soil - Part 1 Identification and description. British Standards Institution.
- BS EN ISO 14688-2:2018: Geotechnical investigation and testing - Identification and classification of soil - Part 2 Principles for a classification. British Standards Institution. Investigation of Potentially Contaminated Sites – Code of Practice, BS10175, 2011.
- Environment Agency, “Waste Sampling and Testing for Disposal to Landfill” March 2013
- G Card and S Wilson, An Alternative Approach for Ground Gas Risk Assessment, 2011.





Existing site access off the B4069 - High Street (road).



View of the northern area of the site, looking northwards

December 2025

SITE PHOTOGRAPHS

Report No.:- 25-10-01



View of the central area of the site, looking southwards – access to the orchard on the right of the frame



View of the old orchard area, from the northern access looking south



View of the southern area of the site, looking southwards



View of the southern area of the site, looking north along the length of the site

December 2025

SITE PHOTOGRAPHS

Report No.:- 25-10-01



View of the fenced opening to the orchard, from the southern site area



View of the anthropogenic Made Ground



APPENDIX B



Geo-Integrity, - 07858 367 125 Email:- info@geo-integrity.co.uk

Excavation Method

Drive-in Windowless Sampler

Dimensions

Ground Level (mOD)

53.90

Client

EG Carter

Job Number
25-10-01

Location (Observed measurements)
395007.418 E 178689.896 N

Dates
23/10/2025-
24/10/2025

Engineer

Danny Lusardi

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	D			53.85	0.05	TOPSOIL - Soft dark brown silty sandy organic CLAY.			
					(0.40)	MADE GROUND (Reworked Soil) - Soft to firm, light brown silty very sandy slightly gravelly CLAY. Gravel is fine to coarse, angular of concrete.			
0.50	D			53.45	0.45	MADE GROUND (Anthropogenic) - Very loose grey and black very ashy SILT.			
					(0.30)				
0.75-1.00	D			53.15	0.75	RIVER TERRACE DEPOSITS - Firm to stiff reddish brown silty sandy gravelly CLAY. Gravel is fine to medium, rounded of sandstone.			
1.00-1.40	D				(0.65)				
1.40-1.90	D			52.50	1.40	RIVER TERRACE DEPOSITS - Light brown silty very sandy GRAVEL. Gravel is fine to coarse, angular of sandstone.			
					(0.50)				
2.00-2.90	D		Water strike(1) at 2.20m, no rise after 20 mins.	52.00	1.90	RIVER TERRACE DEPOSITS - Brown and light grey very clayey silty gravelly SAND. Gravel is fine to coarse, sub-rounded of flint and sandstone.			
					(1.00)				
3.00-4.00	D			51.00	2.90	KELLAWAYS FORMATION - Stiff dark grey silty CLAY.			
					(1.10)				
				49.90	4.00	Terminated at 4.00m			

Remarks

Scale (approx)

1:25

Logged By

DL

Figure No.

25-10-01.CT1



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info@geo-integrity.co.uk
01280 816409

Site

Land to the east of Church View, Sutton Benger, SN15 4FD

Number
CT2

Excavation Method

Drive-in Windowless Sampler

Dimensions

Ground Level (mOD)

54.00

Client

EG Carter

Job
Number
25-10-01

Location (Observed measurements)

395041 E 178658 N

Dates

23/10/2025-
24/10/2025

Engineer

Danny Lusardi

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	D				(0.35)	TOPSOIL - Soft dark brown silty sandy organic CLAY.			
0.50-1.00	D			53.65	0.35	MADE GROUND (reworked) - Firm to stiff brown silty sandy gravelly CLAY. Gravel is fine to coarse, angular to rounded of sandstone, brick and flint.			
					(0.80)				
1.20	D			52.85	1.15	MADE GROUND MADE GROUND (Heavily Anthropogenic) - Dark brown firm silty sandy gravelly CLAY. Gravel is fine to coarse, angular to rounded of sandstone, brick, metal, glass and flint.			
				52.68	1.32				
1.50-1.90	D				(0.67)	RIVER TERRACE DEPOSITS - Light brown silty very sandy GRAVEL. Gravel is fine to coarse, angular of sandstone.			
2.00-3.00	D			52.01	1.99	RIVER TERRACE DEPOSITS - Brown and light grey very clayey silty gravelly SAND. Gravel is fine to coarse, sub-rounded of flint and sandstone.			
			Water strike(1) at 2.30m, no rise after 20 mins.						
3.00-3.90	D				(1.96)				
4.00	D			50.05	3.95	RIVER TERRACE DEPOSITS/KELLAWAYS FORMATION - Stiff dark grey, silty CLAY. Possible inconclusive samples as sample is heavily disturbed.			
				50.00	4.00	Terminated at 4.00m			

Remarks

Scale (approx)

1:25

Logged By

DL

Figure No.

25-10-01.CT2



 www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409				Site Land to the east of Church View, Sutton Benger, SN15 4FD				Number CT3	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD) 54.14		Client EG Carter		Job Number 25-10-01	
		Location (Handheld GPS) 395047.198 E 178605.877 N		Dates 23/10/2025- 24/10/2025		Engineer Danny Lusardi		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20-0.50	D		Water strike(1) at 2.50m, no rise after 20 mins.	53.99	(0.15) 0.15	TOPSOIL - Soft dark brown silty sandy organic CLAY.			
					(0.40)	MADE GROUND (Reworked) - Firm dark brown silty sandy CLAY.			
0.70	D			53.59	0.55 (0.35)	MADE GROUND (Anthropogenic) - Very loose grey and black very ashy SILT.			
0.90	D			53.24	0.90	MADE GROUND (Heavily Anthropogenic) - Dark grey brown and black heavily anthropogenic very ashy silty sandy GRAVEL. Gravel is coarse angular of glass brick metal and plastic.			
1.00-2.00	D				(1.20)				
2.00-2.10	D			52.04	2.10	RIVER TERRACE DEPOSITS - Light brown slightly clayey silty very sandy GRAVEL. Gravel is fine to coarse of sandstone.			
2.10-3.00	D								
									
									
									
3.00-4.00	D			(1.90)	Very poor recovery between 2 - 3 m - with only 0.4 m retained				
									
									
									
									
									
									
									
									
									
									
									
									
									
									
									
Remarks							Scale (approx)	Logged By	Figure No. 25-10-01.CT3
							1:25	DL	
									



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Site

Land to the east of Church View, Sutton Benger, SN15 4FD

Number
CT4

Excavation Method

Drive-in Windowless Sampler

Dimensions

Location (Handheld GPS)

395056.134 E 178535.505 N

Ground Level (mOD)

54.48

Client

EG Carter

Job
Number
25-10-01

Dates

23/10/2025-
24/10/2025

Engineer

Danny Lusardi

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20-0.50	D			54.43	0.05	TOPSOIL - Soft dark brown silty sandy organic CLAY.			
0.70-1.05	D				(1.00)	MADE GROUND (Anthropogenic) - Dark brown black and grey very ashy slightly clayey silty very sandy GRAVEL. Gravel is fine to coarse, angular of sandstone and metal (rusty)			
1.05-1.45	D			53.43	1.05	MADE GROUND (Reworked) - Very loose brown SAND.			
1.50-1.90	D			53.03	1.45	MADE GROUND (Anthropogenic). Dark brown black and grey very ashy slightly clayey silty very sandy GRAVEL. Gravel is fine to coarse, angular of sandstone and metal (rusty)			
2.00-2.95	D			52.53	1.95	MADE GROUND (Heavily Anthropogenic) - Soft black ashy silty sandy Gravelly CLAY. Gravel is fine to coarse, angular of glass, metal, concrete, plastic and rubber - (poor recovery).			
3.00-3.50	D		Water strike(1) at 2.85m, no rise after 20 mins.	51.53	2.95	RIVER TERRACE DEPOSITS - Light brown, slightly clayey, silty, very sandy GRAVEL. Gravel is fine to coarse of sandstone. Very poor recovery between 2 - 3 m - only 0.4 m			
				50.98	3.50	Refusal at this depth Terminated at 3.50m			

Remarks

Scale (approx)

1:25

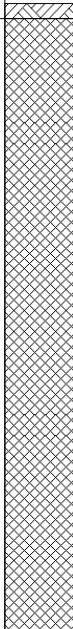
Logged By

DL

Figure No.

25-10-01.CT4



				www.geo-integrity.co.uk info@geo-integrity.co.uk 01280 816409		Site Land to the east of Church View, Sutton Benger, SN15 4FD		Number CT5	
Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD) 54.14		Client EG Carter		Job Number 25-10-01	
		Location (Handheld GPS) 395054.897 E 178474.957 N		Dates 23/10/2025- 24/10/2025		Engineer Danny Lusardi		Sheet 1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.20-1.00	D	Water strike(1) at 2.80m, no rise after 20 mins.		54.09	0.05	TOPSOIL - Soft dark brown silty sandy organic CLAY.			
1.00-2.00	D			(2.05)	MADE GROUND (Reworked) - Firm to stiff brown silty sandy gravelly CLAY. Gravel is fine to coarse, angular to rounded of sandstone, brick and flint.				
					Very poor recovery and collapsing to 1.40m				
2.10-2.70	D			52.04	2.10	RIVER TERRACE DEPOSITS - Brown, slightly clayey, silty, gravelly SAND. Gravel is fine to medium, angular to rounded of sandstone.			
2.70-3.00	D			51.44	2.70	RIVER TERRACE DEPOSITS - Soft, grey, very silty, very sandy CLAY. With bands of black organic CLAY.			
3.95	D			51.14	3.00	No recovery			
		50.19	3.95	RIVER TERRACE DEPOSITS/KELLAWAYS FORMATION - Firm to stiff dark grey, silty CLAY. Possible inconclusive samples as sample is heavily disturbed.					
		50.14	4.00	Terminated at 4.00m					
Remarks								Scale (approx) 1:25	Logged By DL
								Figure No. 25-10-01.CT5	



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Site

Land to the east of Church View, Sutton Benger, SN15 4FD

Number
CT5A

Excavation Method

Drive-in Windowless Sampler

Dimensions

Ground Level (mOD)

54.20

Client

EG Carter

Job
Number
25-10-01

Location (Handheld GPS)

395054.375 E 178475.021 N

Dates

23/10/2025-
24/10/2025

Engineer

Danny Lusardi

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
				54.15	0.05	TOPSOIL - Soft dark brown silty sandy organic CLAY.			
					(2.05)	MADE GROUND (Reworked) - Firm to stiff brown silty sandy gravelly CLAY. Gravel is fine to coarse, angular to rounded of sandstone, brick and flint.			
				52.10	2.10	RIVER TERRACE DEPOSITS - Brown, slightly clayey, silty, gravelly SAND. Gravel is fine to medium, angular to rounded of sandstone.			
					(0.60)				
				51.50	2.70	RIVER TERRACE DEPOSITS - Soft, grey, very silty, very sandy CLAY. With bands of black organic CLAY.			
					(0.30)				
				51.20	3.00	No recovery			
					(0.95)				
				50.25	3.95	RIVER TERRACE DEPOSITS/KELLAWAYS FORMATION - Firm to stiff dark grey, silty CLAY. Possible inconclusive samples as sample is heavily disturbed.			
				50.20	4.00	Terminated at 4.00m			

Water strike(1) at 2.80m, no rise after 20 mins.

Remarks

Scale (approx)
1:25

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Figure No.
25-10-01.CT5A





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Site Land to the east of Church View, Sutton Benger, SN15 4FD	Number CT6
Client EG Carter	Job Number 25-10-01
Engineer Danny Lusardi	Sheet 1/1

Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD) 54.04
	Location (Handheld GPS) 395035.054 E 178521.874 N	Dates 23/10/2025- 24/10/2025

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.05	D			53.94	(0.10) 0.10	TOPSOIL - Soft dark brown silty sandy organic CLAY.			
0.20-0.50	D					MADE GROUND (Reworked) - Firm to stiff, brown, very silty, very sandy, gravelly CLAY. Gravel is fine to coarse of sandstone, (possibly concrete), with rare charcoal fragments.			
0.50-1.15	D				(1.05)				
				52.89	1.15	Refusal at depth. Terminated at 1.15m			

Remarks	Scale (approx) 1:25	Logged By DL
	Figure No. 25-10-01.CT6	

Site

Land to the east of Church View, Sutton Benger, SN15 4FD

Number
CT6A

Excavation Method

Drive-in Windowless Sampler

Dimensions

Location (Handheld GPS)

395035.003 E 178522.388 N

Ground Level (mOD)

54.09

Client	
---------------	--

EG Carter

Engineer

Danny Lusardi

**Job
Number**
25-10-01

Sheet

1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
				53.99	(0.10) 0.10	TOPSOIL - Soft dark brown silty sandy organic CLAY.		
					(0.60)	MADE GROUND (Reworked) - Firm to stiff, brown, very silty, very sandy, gravelly CLAY. Gravel is fine to coarse of sandstone, (possibly concrete), with rare charcoal fragments.		
				53.39	0.70	Refusal at depth. Terminated at 0.70m		

Remarks

Scale (approx)

1:25

Logged
By

DL

Figure No.

25-10-01.CT6A



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info@geo-integrity.co.uk
01280 816409

Site

Land to the east of Church View, Sutton Benger, SN15 4FD

Number
CT7

Excavation Method

Drive-in Windowless Sampler

Dimensions

Ground Level (mOD)

53.86

Client

EG Carter

Job
Number
25-10-01

Location (Handheld GPS)

395029.762 E 178560.319 N

Dates

23/10/2025-
24/10/2025

Engineer

Danny Lusardi

Sheet
1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20-0.50	D			53.81	0.05	TOPSOIL - Soft dark brown silty sandy organic CLAY.			
0.50-1.40	D				(1.40)	MADE GROUND (reworked) - Firm to stiff brown very silty very sandy gravelly CLAY. Gravel is fine to coarse of sandstone, (possibly concrete).			
1.40-2.00	D			52.41	1.45	RIVER TERRACE DEPOSITS - Light brown silty very sandy GRAVEL. Gravel is fine to coarse, angular of sandstone.			
2.00-2.50	D		Water strike(1) at 2.00m, no rise after 20 mins.						
2.50-3.00	D				(2.42)				
3.00-3.80	D								
3.90	D			49.99	3.87	Terminated at 4.00m			

Remarks

Scale (approx)

1:25

Logged By

DL

Figure No.

25-10-01.CT7





Date	Job No.	BH	CH4(%)	LEL(%)	CO2(%)	O2(%)	H2S (ppm)	CO (ppm)	Hex(%)	PIDCf()	Flow (lh)	PkFlw (lh)	AP (mbar)	GW (m bgl)	Pmp (s)	Bal(%)
12/11/25	25-10-01	CT1	0	0	3.6	12.8	0	0	0	1	0	0	996	1.85	90	83.6
12/11/25	25-10-01	CT2	0	0	12.2	0.9	0	0	0	1	0	0	997	2	76	89.1
12/11/25	25-10-01	CT3	0	0	3	15.4	0	0	0	1	0	0	997	2.3	60	81.6
12/11/25	25-10-01	CT4	0	0	14.5	1.3	0	0	0	1	0	0.2	997	2.69	60	84.2
12/11/25	25-10-01	CT5A	0	0	8.3	9.3	0	0	0	1	0	0	997	2.5	60	82.4
12/11/25	25-10-01	CT6	0	0	0.7	19.5	0	0	0	1	0	0.4	997	DRY	64	79.8
12/11/25	25-10-01	CT7	0	0	0.8	19.1	0	0	0	1	0	0	997	2.05	60	80.1
03/12/25	25-10-01	CT1	0	0	0	3.8	7.1	0	0	0	1	0.0001	1003	1.53	60	89.1
03/12/25	25-10-01	CT2	0	0	10.1	0.7	0	0	0	1	0	0.1	1003	1.55	60	89.2
03/12/25	25-10-01	CT3	0	1	14	0.4	0	0	0.025	1	0	0.9	1003	1.76	60	85.6
03/12/25	25-10-01	CT4	0	0	14.6	0	0	0	0	1	0.0002	0.2	1003	2.06	60	85.4
03/12/25	25-10-01	CT5A	0	0	6.8	9.7	0	0	0	1	0	0.6	1003	1.77	60	83.5
03/12/25	25-10-01	CT6	0	0	1.2	18.3	0	0	0	1	0.0003	0.3	1003	DRY	60	80.5
03/12/25	25-10-01	CT7	0	0	0.6	19.1	0	0	0	1	0.0002	0.3	1003	1.33	60	80.5

Pre-existing Identified (presumed ID) Borehole Standpipes (All 5m - response zone unknown)

12/11/25	25-10-01	OBHS	0.3	8.8	10.1	0	0	0	0.032	1.1	0	0	997	2.6	67	89.6
12/11/25	25-10-01	OBHN	0	0	8	6.7	0	0	0	1	0	0	997	2.4	60	85.3
12/11/25	25-10-01	OBHM	0	0	8.4	4	0	0	0	1	0	0	996	2.4	64	87.6
03/12/25	25-10-01	OBHS	1.2	29.2	9.4	0	0	0	0.056	1.6	0.0001	0.1	1002	1.68	74	89.4
03/12/25	25-10-01	OBHN	0	0	8.4	3.4	0	0	0	1	0.0003	0.3	1003	1.56	60	88.2
03/12/25	25-10-01	OBHM	0	0	6.8	6.9	0	0	0	1	0.0004	0.7	1003	1.52	60	86.3



APPENDIX C



Geo-Integrity, - 07858 367 125 Email:- info@geo-integrity.co.uk



Geo-Integrity
4 Church Street
Buckingham
MK18 1QE

7 - 11 Harding Street
Leicester
LE1 4DH

Analytical Test Report: L25/11583/GIN - 25-88722

Your Project Reference:	LAND TO THE EAST OF CHURCH VIEW, SUTTON BENDER 25-10-01		
Your Order Number:	Q24-00626/1	Samples Received / Instructed:	30/10/2025 / 30/10/2025
Report Issue Number:	1	Sample Tested:	30/10 to 13/11/2025
Samples Analysed:	12 sample(s)	Report issued:	13/11/2025

Signed

James Gane
Analytical Services Manager
CTS

Notes:

General

Please refer to Methodologies page for details pertaining to the analytical methods undertaken.

Samples will be retained for 14 days after issue of this report with the exception of the asbestos test portion which is held for 6 months unless otherwise requested.

Moisture Content was determined in accordance with CTS method statement MS - CL - Sample Prep, oven dried at <30°C.

Moisture Content is reported as a percentage of the dry mass of soil, this calculation is in accordance with BS1377, Part 2, 1990, Clause 3.2

Stone Content was determined in accordance with CTS method statement MS - CL - Sample Prep and refers to the percentage of stones retained on a 10mm BS test sieve.

Where specification limits are included these are for guidance only. Where a measured value has been highlighted this is not implying acceptance or failure and certainty of measurement values have not been taken into account.

Uncertainty of measurement values are available on request.

Samples were supplied by customer, results apply to the samples as received.

Asbestos

Please note: Where further analysis is required samples identified as containing asbestos are screened and tested on an as received basis. No correction is made for moisture content and other than the asbestos test(s) these results are not covered by our accreditation

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

Deviating Samples

On receipt samples are compared against our sample holding and handling protocols, where any deviations have been noted these are reported on our deviating sample page (if present)

Accreditation Key

This report shall not be reproduced except in full

UKAS = UKAS Accreditation, MCERTS = MCERTS Accreditation, u = Unaccredited, subUKAS - Subcontracted to a laboratory UKAS accredited for this test, subMCERTS - Subcontracted to a laboratory MCERTS accredited for this test

MCERTS Accreditation only covers the SAND, CLAY and LOAM matrices

UKAS accreditation on waters only covers the Ground water and Surface water matrices

Date of Issue: 27.08.25

Issued by: J. Gane

Issue No: 4

Rev No: 27

L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF
CHURCH VIEW, SUTTON BENDER 25-10-01

Analytical Test Results - Solid

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference			629554	629555	629556	629557	629558	629559
Client Sample ID			-	-	-	-	-	-
Client Sample Location			CT1	CT1	CT2	CT3	CT3	CT4
Client Sample Type			-	-	-	-	-	-
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			0.50	2.00	1.20	1.00	2.10	0.70
Depth - Bottom (m)			0.50	2.00	1.20	1.00	2.10	0.70
Date of Sampling			24/10/2025	24/10/2025	24/10/2025	24/10/2025	24/10/2025	24/10/2025
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Sand	Clay	Clay	Clay	Sand	Sand
Determinant	Units	Accreditation						
Arsenic	(mg/kg)	MCERTS	< 10	< 10	22	60	19	38
Cadmium	(mg/kg)	MCERTS	1.2	1.2	5.5	6.6	2.0	20
Chromium (Total)	(mg/kg)	UKAS	< 1.0	< 1.0	< 1.0	1.8	< 1.0	160
Copper	(mg/kg)	MCERTS	120	14	41	480	71	12000
Lead	(mg/kg)	MCERTS	69	7.3	100	410	50	11000
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	23	21	43	110	31	1700
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	180	86	3600	940	110	5800
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
pH	pH Units	MCERTS	6.6	7.5	7.3	6.8	8.0	7.7
Acenaphthene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	0.55	< 0.02	< 0.02
Acenaphthylene	(mg/kg)	UKAS	< 0.02	< 0.02	< 0.02	< 0.20	< 0.02	< 0.02
Anthracene	(mg/kg)	UKAS	0.04	< 0.02	< 0.02	0.34	< 0.02	0.03
Benzo (a) anthracene	(mg/kg)	MCERTS	0.08	< 0.02	0.09	1.5	< 0.02	0.03
Benzo (a) pyrene	(mg/kg)	MCERTS	0.05	< 0.02	0.11	2.2	< 0.02	0.03
Benzo (b) fluoranthene	(mg/kg)	MCERTS	0.09	< 0.02	0.14	1.4	< 0.02	0.04
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	0.05	< 0.02	0.08	1.9	< 0.02	0.03
Benzo (k) fluoranthene	(mg/kg)	MCERTS	0.03	< 0.02	0.06	0.56	< 0.02	< 0.02
Chrysene	(mg/kg)	MCERTS	0.07	< 0.02	0.09	1.5	< 0.02	< 0.02
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	0.38	< 0.02	< 0.02
Fluoranthene	(mg/kg)	MCERTS	0.16	< 0.02	0.15	1.0	< 0.02	0.07
Fluorene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	0.76	< 0.02	< 0.02
Indeno (1, 2, 3, -cd) pyrene	(mg/kg)	MCERTS	0.04	< 0.02	0.09	1.5	< 0.02	< 0.02
Naphthalene	(mg/kg)	MCERTS	0.27	< 0.02	< 0.02	< 0.20	< 0.02	0.16
Phenanthrene	(mg/kg)	MCERTS	0.28	< 0.02	0.05	0.49	< 0.02	0.14
Pyrene	(mg/kg)	MCERTS	0.13	< 0.02	0.14	1.7	< 0.02	0.08
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	1.4	< 0.32	1.1	16	< 0.32	0.75
FOC	-	UKAS	0.053	< 0.005	0.013	0.079	0.005	0.063
Asbestos	-	UKAS	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected

L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF
CHURCH VIEW, SUTTON BENDER 25-10-01

Analytical Test Results - Solid

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference			629560	629561	629562	629563	629564	629565
Client Sample ID			-	-	-	-	-	-
Client Sample Location			CT4	CT5	CT5	CT6	CT7	CT7
Client Sample Type			-	-	-	-	-	-
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			2.00	0.20	2.70	0.20	0.50	2.00
Depth - Bottom (m)			2.00	0.20	2.70	0.20	0.50	2.00
Date of Sampling			24/10/2025	24/10/2025	24/10/2025	24/10/2025	24/10/2025	24/10/2025
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Clay	Sand	Clay	Clay	Sand	Clay
Determinant	Units	Accreditation						
Arsenic	(mg/kg)	MCERTS	14	14	< 10	18	13	16
Cadmium	(mg/kg)	MCERTS	2.1	2.8	1.0	1.7	1.2	1.6
Chromium (Total)	(mg/kg)	UKAS	5.7	9.0	< 1.0	3.5	< 1.0	< 1.0
Copper	(mg/kg)	MCERTS	76	630	19	21	12	15
Lead	(mg/kg)	MCERTS	58	460	11	32	5.9	10
Mercury	(mg/kg)	UKAS	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5	< 2.5
Nickel	(mg/kg)	MCERTS	38	46	20	21	22	21
Selenium	(mg/kg)	u	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0	< 8.0
Zinc	(mg/kg)	MCERTS	170	210	54	69	40	51
Chromium (Hexavalent)	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
pH	pH Units	MCERTS	7.6	7.8	7.7	7.2	7.9	8.1
Acenaphthene	(mg/kg)	MCERTS	0.03	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Acenaphthylene	(mg/kg)	UKAS	< 0.02	0.02	< 0.02	< 0.02	< 0.02	< 0.02
Anthracene	(mg/kg)	UKAS	< 0.02	0.03	< 0.02	< 0.02	< 0.02	< 0.02
Benzo (a) anthracene	(mg/kg)	MCERTS	< 0.02	0.13	< 0.02	0.05	< 0.02	< 0.02
Benzo (a) pyrene	(mg/kg)	MCERTS	< 0.02	0.17	< 0.02	0.05	< 0.02	< 0.02
Benzo (b) fluoranthene	(mg/kg)	MCERTS	< 0.02	0.19	< 0.02	0.06	< 0.02	< 0.02
Benzo (g, h, i) perylene	(mg/kg)	MCERTS	< 0.02	0.13	< 0.02	0.04	< 0.02	< 0.02
Benzo (k) fluoranthene	(mg/kg)	MCERTS	< 0.02	0.08	< 0.02	0.02	< 0.02	< 0.02
Chrysene	(mg/kg)	MCERTS	< 0.02	0.11	< 0.02	0.04	< 0.02	< 0.02
Dibenzo (a,h) anthracene	(mg/kg)	MCERTS	< 0.02	0.03	< 0.02	< 0.02	< 0.02	< 0.02
Fluoranthene	(mg/kg)	MCERTS	< 0.02	0.21	< 0.02	0.08	< 0.02	< 0.02
Fluorene	(mg/kg)	MCERTS	0.04	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Indeno (1, 2, 3, -cd) pyrene	(mg/kg)	MCERTS	< 0.02	0.13	< 0.02	0.03	< 0.02	< 0.02
Naphthalene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Phenanthrene	(mg/kg)	MCERTS	< 0.02	0.04	< 0.02	< 0.02	< 0.02	< 0.02
Pyrene	(mg/kg)	MCERTS	< 0.02	0.19	< 0.02	0.07	< 0.02	< 0.02
Total PAH (Sum of USEPA 16)	(mg/kg)	UKAS	0.41	1.5	< 0.32	0.59	< 0.32	< 0.32
FOC	-	UKAS	0.010	0.029	0.016	0.017	< 0.005	0.007
Asbestos	-	UKAS	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected	No Asbestos Detected



L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF
CHURCH VIEW, SUTTON BENDER 25-10-01

Analytical Test Results - VPH / EPH

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference			629554	629555	629556	629557	629558	629559
Client Sample ID			-	-	-	-	-	-
Client Sample Location			CT1	CT1	CT2	CT3	CT3	CT4
Client Sample Type			-	-	-	-	-	-
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			0.50	2.00	1.20	1.00	2.10	0.70
Depth - Bottom (m)			0.50	2.00	1.20	1.00	2.10	0.70
Date of Sampling			24/10/2025	24/10/2025	24/10/2025	24/10/2025	24/10/2025	24/10/2025
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Sand	Clay	Clay	Clay	Sand	Sand
Determinant	Units	Accreditation						
Benzene	(mg/kg)	MCERTS	0.04	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	(mg/kg)	MCERTS	0.03	< 0.01	< 0.01	0.05	< 0.01	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	0.02	< 0.01	0.02
m&p Xylene	(mg/kg)	MCERTS	< 0.02	< 0.02	< 0.02	0.07	< 0.02	0.04
o-Xylene	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	0.02	< 0.01	0.02
MTBE	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total >C ₅ to C ₄₀ [EH_2D+HS_1D_TOTAL]	(mg/kg)	MCERTS	69	< 10	15	920	< 10	370
Total TPH >C ₅ to C ₆ [HS_MS_1D_TOTAL]	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total TPH >C ₆ to C ₇ [HS_MS_1D_TOTAL]	(mg/kg)	u	< 1.1	< 1.1	< 1.2	< 1.2	< 1.1	< 1.1
Total TPH >C ₇ to C ₈ [HS_MS_1D_TOTAL]	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total TPH >C ₈ to C ₁₀ [EH_2D_TOTAL]	(mg/kg)	MCERTS	< 5.0	< 5.0	< 5.0	24	< 5.0	7.1
Total TPH >C ₁₀ to C ₁₂ [EH_2D_TOTAL]	(mg/kg)	MCERTS	< 5.0	< 5.0	< 5.0	43	< 5.0	< 5.0
Total TPH >C ₁₂ to C ₁₆ [EH_2D_TOTAL]	(mg/kg)	MCERTS	7.7	< 5.0	< 5.0	33	< 5.0	13
Total TPH >C ₁₆ to C ₂₁ [EH_2D_TOTAL]	(mg/kg)	MCERTS	13	< 5.0	< 5.0	91	< 5.0	89
Total TPH >C ₂₁ to C ₃₅ [EH_2D_TOTAL]	(mg/kg)	MCERTS	42	< 10	12	600	< 10	240
Total TPH >C ₃₅ to C ₄₄ [EH_2D_TOTAL]	(mg/kg)	u	10	11	11	230	11	27



L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF
CHURCH VIEW, SUTTON BENDER 25-10-01

Analytical Test Results - VPH / EPH

7 - 11 Harding Street
Leicester
LE1 4DH

Lab Reference			629560	629561	629562	629563	629564	629565
Client Sample ID			-	-	-	-	-	-
Client Sample Location			CT4	CT5	CT5	CT6	CT7	CT7
Client Sample Type			-	-	-	-	-	-
Client Sample Number			-	-	-	-	-	-
Depth - Top (m)			2.00	0.20	2.70	0.20	0.50	2.00
Depth - Bottom (m)			2.00	0.20	2.70	0.20	0.50	2.00
Date of Sampling			24/10/2025	24/10/2025	24/10/2025	24/10/2025	24/10/2025	24/10/2025
Time of Sampling			-	-	-	-	-	-
Sample Matrix			Clay	Sand	Clay	Clay	Sand	Clay
Determinant	Units	Accreditation						
Benzene	(mg/kg)	MCERTS	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Toluene	(mg/kg)	MCERTS	0.05	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Ethylbenzene	(mg/kg)	MCERTS	0.02	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
m&p Xylene	(mg/kg)	MCERTS	0.09	< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
o-Xylene	(mg/kg)	MCERTS	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
MTBE	(mg/kg)	MCERTS	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total >C ₅ to C ₄₀ [EH_2D+HS_1D_TOTAL]	(mg/kg)	MCERTS	32	19	28	20	< 10	21
Total TPH >C ₅ to C ₆ [HS_MS_1D_TOTAL]	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total TPH >C ₆ to C ₇ [HS_MS_1D_TOTAL]	(mg/kg)	u	< 1.3	< 1.1	< 1.3	< 1.1	< 1.1	< 1.2
Total TPH >C ₇ to C ₈ [HS_MS_1D_TOTAL]	(mg/kg)	u	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total TPH >C ₈ to C ₁₀ [EH_2D_TOTAL]	(mg/kg)	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total TPH >C ₁₀ to C ₁₂ [EH_2D_TOTAL]	(mg/kg)	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total TPH >C ₁₂ to C ₁₆ [EH_2D_TOTAL]	(mg/kg)	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total TPH >C ₁₆ to C ₂₁ [EH_2D_TOTAL]	(mg/kg)	MCERTS	8.3	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total TPH >C ₂₁ to C ₃₅ [EH_2D_TOTAL]	(mg/kg)	MCERTS	20	15	22	17	< 10	17
Total TPH >C ₃₅ to C ₄₄ [EH_2D_TOTAL]	(mg/kg)	u	12	10	13	11	10	11

L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF CHURCH VIEW, SUTTON BENDER 25-10-01

7 - 11 Harding Street
Leicester
LE1 4DH

Certificate Of Analysis - WAC Suite

Lab Reference	629554
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Client Sample ID	-
Client Sample Location	CT1
Client Sample Type	-
Client Sample Number	-
Depth - Top (m)	0.5
Depth - Bottom (m)	0.5
Date of Sampling	24/10/2025
Time of Sampling	-
Sample Description	Dark brown gravelly silty sand with rare glass
Sample Matrix	Sand
Moisture Content (%)	3.1
Stone content (%)	3.4

Determined Result	Inert Waste Landfill	Stable non reactive hazardous waste in a non hazardous landfill	Hazardous Waste Landfill
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Solid Analysis

Total Organic Carbon	%	MCERTS	5.3	3.0	5.0	6.0
Loss on Ignition	%	UKAS	20	-	-	10.0
BTEX	mg/kg	MCERTS	0.1	6.00	-	-
PCB's (7 Congeners)	mg/kg	MCERTS	< 0.025	1.00	-	-
Mineral Oil (>C10 to C40) [EH_CU_1D_Tota	mg/kg	u	120	500	-	-
PAH	mg/kg	u	1.4	100	-	-
pH	units	MCERTS	6.6	-	> 6	-

Eluate Analysis

Arsenic	mg/kg	UKAS	0.01	0.50	2	25
Barium	mg/kg	UKAS	0.15	20	100	300
Cadmium	mg/kg	UKAS	< 0.0025	0.04	1	5
Chromium (total)	mg/kg	UKAS	< 0.0050	0.5	10	70
Copper	mg/kg	UKAS	0.07	2.0	50	100
Mercury	mg/kg	UKAS	< 0.00050	0.01	0.2	2
Molybdenum	mg/kg	UKAS	0.03	0.5	10.0	30
Nickel	mg/kg	UKAS	< 0.075	0.4	10.0	40
Lead	mg/kg	UKAS	< 0.035	0.5	10.0	50
Antimony	mg/kg	UKAS	< 0.050	0.06	0.7	5
Selenium	mg/kg	UKAS	< 0.0050	0.1	0.5	7
Zinc	mg/kg	u	< 0.25	4	50	200
Chloride	mg/kg	UKAS	< 1	800	15000	25000
Fluoride	mg/kg	u	5	10	150	500
Sulphate (as SO ₄)	mg/kg	UKAS	11	1000	20000	50000
Total Dissolved Solids	mg/kg	u	570	4000	60000	100000
Phenol Index	mg/kg	u	< 1.0	1	-	-
Dissolved Organic Carbon	mg/kg	UKAS	< 20	500	800	1000



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L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF CHURCH VIEW, SUTTON BENDER 25-10-01

Certificate Of Analysis - WAC Suite

Lab Reference	629557
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Client Sample ID	-
Client Sample Location	CT3
Client Sample Type	-
Client Sample Number	-
Depth - Top (m)	1
Depth - Bottom (m)	1
Date of Sampling	24/10/2025
Time of Sampling	-
Sample Description	Brown gravelly sandy silty clay with frequent organic matter organic matter
Sample Matrix	Clay
Moisture Content (%)	15
Stone content (%)	51

	Determined Result	Inert Waste Landfill	Stable non reactive hazardous waste in a non hazardous landfill	Hazardous Waste Landfill
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Solid Analysis

Total Organic Carbon	%	MCERTS	7.9	3.0	5.0	6.0
Loss on Ignition	%	UKAS	12	-	-	10.0
BTEX	mg/kg	MCERTS	0.2	6.00	-	-
PCB's (7 Congeners)	mg/kg	MCERTS	0.28	1.00	-	-
Mineral Oil (>C10 to C40) [EH_CU_1D_Tota	mg/kg	u	1400	500	-	-
PAH	mg/kg	u	17	100	-	-
pH	units	MCERTS	6.8	-	> 6	-

Eluate Analysis

Arsenic	mg/kg	UKAS	0.01	0.50	2	25
Barium	mg/kg	UKAS	0.83	20	100	300
Cadmium	mg/kg	UKAS	< 0.0025	0.04	1	5
Chromium (total)	mg/kg	UKAS	< 0.0050	0.5	10	70
Copper	mg/kg	UKAS	< 0.025	2.0	50	100
Mercury	mg/kg	UKAS	< 0.00050	0.01	0.2	2
Molybdenum	mg/kg	UKAS	0.03	0.5	10.0	30
Nickel	mg/kg	UKAS	< 0.075	0.4	10.0	40
Lead	mg/kg	UKAS	< 0.035	0.5	10.0	50
Antimony	mg/kg	UKAS	< 0.050	0.06	0.7	5
Selenium	mg/kg	UKAS	< 0.0050	0.1	0.5	7
Zinc	mg/kg	u	< 0.25	4	50	200
Chloride	mg/kg	UKAS	< 1	800	15000	25000
Fluoride	mg/kg	u	1	10	150	500
Sulphate (as SO ₄)	mg/kg	UKAS	2600	1000	20000	50000
Total Dissolved Solids	mg/kg	u	4200	4000	60000	100000
Phenol Index	mg/kg	u	< 1.0	1	-	-
Dissolved Organic Carbon	mg/kg	UKAS	< 20	500	800	1000



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L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF CHURCH VIEW, SUTTON BENDER 25-10-01

Certificate Of Analysis - WAC Suite

Lab Reference	629559
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Client Sample ID	-
Client Sample Location	CT4
Client Sample Type	-
Client Sample Number	-
Depth - Top (m)	0.7
Depth - Bottom (m)	0.7
Date of Sampling	24/10/2025
Time of Sampling	-
Sample Description	Dark brown gravelly silty sand with frequent rootlets plastic bituminous material
Sample Matrix	Sand
Moisture Content (%)	8.9
Stone content (%)	19

	Determined Result	Inert Waste Landfill	Stable non reactive hazardous waste in a non hazardous landfill	Hazardous Waste Landfill
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Solid Analysis

Total Organic Carbon	%	MCERTS	6.3	3.0	5.0	6.0
Loss on Ignition	%	UKAS	3.0	-	-	10.0
BTEX	mg/kg	MCERTS	0.1	6.00	-	-
PCB's (7 Congeners)	mg/kg	MCERTS	0.14	1.00	-	-
Mineral Oil (>C10 to C40) [EH_CU_1D_Tota	mg/kg	u	530	500	-	-
PAH	mg/kg	u	0.8	100	-	-
pH	units	MCERTS	7.7	-	> 6	-

Eluate Analysis

Arsenic	mg/kg	UKAS	0.01	0.50	2	25
Barium	mg/kg	UKAS	0.63	20	100	300
Cadmium	mg/kg	UKAS	< 0.0025	0.04	1	5
Chromium (total)	mg/kg	UKAS	< 0.0050	0.5	10	70
Copper	mg/kg	UKAS	0.06	2.0	50	100
Mercury	mg/kg	UKAS	< 0.00050	0.01	0.2	2
Molybdenum	mg/kg	UKAS	0.05	0.5	10.0	30
Nickel	mg/kg	UKAS	0.09	0.4	10.0	40
Lead	mg/kg	UKAS	< 0.035	0.5	10.0	50
Antimony	mg/kg	UKAS	< 0.050	0.06	0.7	5
Selenium	mg/kg	UKAS	< 0.0050	0.1	0.5	7
Zinc	mg/kg	u	< 0.25	4	50	200
Chloride	mg/kg	UKAS	< 1	800	15000	25000
Fluoride	mg/kg	u	5	10	150	500
Sulphate (as SO ₄)	mg/kg	UKAS	250	1000	20000	50000
Total Dissolved Solids	mg/kg	u	1600	4000	60000	100000
Phenol Index	mg/kg	u	< 1.0	1	-	-
Dissolved Organic Carbon	mg/kg	UKAS	< 20	500	800	1000



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L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF CHURCH VIEW, SUTTON BENDER 25-10-01

Certificate Of Analysis - WAC Suite

Lab Reference	629560
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Client Sample ID	-
Client Sample Location	CT4
Client Sample Type	-
Client Sample Number	-
Depth - Top (m)	2
Depth - Bottom (m)	2
Date of Sampling	24/10/2025
Time of Sampling	-
Sample Description	Greyish brown sandy silty clay
Sample Matrix	Clay
Moisture Content (%)	23
Stone content (%)	< 0.1

	Determined Result	Inert Waste Landfill	Stable non reactive hazardous waste in a non hazardous landfill	Hazardous Waste Landfill
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Solid Analysis

Total Organic Carbon	%	MCERTS	1.0	3.0	5.0	6.0
Loss on Ignition	%	UKAS	5.4	-	-	10.0
BTEX	mg/kg	MCERTS	0.2	6.00	-	-
PCB's (7 Congeners)	mg/kg	MCERTS	< 0.025	1.00	-	-
Mineral Oil (>C10 to C40) [EH_CU_1D_Tota	mg/kg	u	59	500	-	-
PAH	mg/kg	u	0.4	100	-	-
pH	units	MCERTS	7.6	-	> 6	-

Eluate Analysis

Arsenic	mg/kg	UKAS	0.02	0.50	2	25
Barium	mg/kg	UKAS	0.23	20	100	300
Cadmium	mg/kg	UKAS	< 0.0025	0.04	1	5
Chromium (total)	mg/kg	UKAS	< 0.0050	0.5	10	70
Copper	mg/kg	UKAS	< 0.025	2.0	50	100
Mercury	mg/kg	UKAS	< 0.00050	0.01	0.2	2
Molybdenum	mg/kg	UKAS	0.03	0.5	10.0	30
Nickel	mg/kg	UKAS	< 0.075	0.4	10.0	40
Lead	mg/kg	UKAS	< 0.035	0.5	10.0	50
Antimony	mg/kg	UKAS	< 0.050	0.06	0.7	5
Selenium	mg/kg	UKAS	< 0.0050	0.1	0.5	7
Zinc	mg/kg	u	< 0.25	4	50	200
Chloride	mg/kg	UKAS	< 1	800	15000	25000
Fluoride	mg/kg	u	1	10	150	500
Sulphate (as SO ₄)	mg/kg	UKAS	690	1000	20000	50000
Total Dissolved Solids	mg/kg	u	2700	4000	60000	100000
Phenol Index	mg/kg	u	< 1.0	1	-	-
Dissolved Organic Carbon	mg/kg	UKAS	21.0	500	800	1000



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L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF CHURCH VIEW, SUTTON BENDER 25-10-01

Certificate Of Analysis - WAC Suite

Lab Reference	629561
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Client Sample ID	-
Client Sample Location	CT5
Client Sample Type	-
Client Sample Number	-
Depth - Top (m)	0.2
Depth - Bottom (m)	0.2
Date of Sampling	24/10/2025
Time of Sampling	-
Sample Description	Brown gravelly silty sand with rare rootlets chalk
Sample Matrix	Sand
Moisture Content (%)	4.4
Stone content (%)	43

	Determined Result	Inert Waste Landfill	Stable non reactive hazardous waste in a non hazardous landfill	Hazardous Waste Landfill
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Solid Analysis

Total Organic Carbon	%	MCERTS	2.9	3.0	5.0	6.0
Loss on Ignition	%	UKAS	6.6	-	-	10.0
BTEX	mg/kg	MCERTS	< 0.06	6.00	-	-
PCB's (7 Congeners)	mg/kg	MCERTS	0.04	1.00	-	-
Mineral Oil (>C10 to C40) [EH_CU_1D_Tota	mg/kg	u	33	500	-	-
PAH	mg/kg	u	1.6	100	-	-
pH	units	MCERTS	7.8	-	> 6	-

Eluate Analysis

Arsenic	mg/kg	UKAS	< 0.0050	0.50	2	25
Barium	mg/kg	UKAS	0.11	20	100	300
Cadmium	mg/kg	UKAS	< 0.0025	0.04	1	5
Chromium (total)	mg/kg	UKAS	< 0.0050	0.5	10	70
Copper	mg/kg	UKAS	< 0.025	2.0	50	100
Mercury	mg/kg	UKAS	< 0.00050	0.01	0.2	2
Molybdenum	mg/kg	UKAS	0.01	0.5	10.0	30
Nickel	mg/kg	UKAS	< 0.075	0.4	10.0	40
Lead	mg/kg	UKAS	< 0.035	0.5	10.0	50
Antimony	mg/kg	UKAS	< 0.050	0.06	0.7	5
Selenium	mg/kg	UKAS	< 0.0050	0.1	0.5	7
Zinc	mg/kg	u	< 0.25	4	50	200
Chloride	mg/kg	UKAS	29	800	15000	25000
Fluoride	mg/kg	u	1	10	150	500
Sulphate (as SO ₄)	mg/kg	UKAS	< 10	1000	20000	50000
Total Dissolved Solids	mg/kg	u	2200	4000	60000	100000
Phenol Index	mg/kg	u	< 1.0	1	-	-
Dissolved Organic Carbon	mg/kg	UKAS	< 20	500	800	1000



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L25/11583/GIN - 25-88722

Project Reference - LAND TO THE EAST OF CHURCH VIEW, SUTTON BENDER 25-10-01

Sample Descriptions

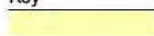
Lab Reference	Client Sample ID	Client Sample Location	Client Sample Type	Client Sample Number	Description	Moisture Content (%)	Stone Content (%)	Passing 2mm test sieve (%)
629554	-	CT1	-	-	Dark brown gravelly silty sand with rare glass	3.1	3.4	85
629555	-	CT1	-	-	Greyish yellow slightly gravelly sandy silty clay	9.7	36	-
629556	-	CT2	-	-	Brown gravelly sandy silty clay	13	13	-
629557	-	CT3	-	-	Brown gravelly sandy silty clay with frequent organic matter organic matter	15	51	87
629558	-	CT3	-	-	Yellow gravelly silty sand	9.2	35	-
629559	-	CT4	-	-	Dark brown gravelly silty sand with frequent rootlets plastic bituminous material	8.9	19	78
629560	-	CT4	-	-	Greyish brown sandy silty clay	23	< 0.1	95
629561	-	CT5	-	-	Brown gravelly silty sand with rare rootlets chalk	4.4	43	97
629562	-	CT5	-	-	Grey sandy silty clay	25	< 0.1	-
629563	-	CT6	-	-	Brown slightly gravelly silty clay	8.6	< 0.1	-
629564	-	CT7	-	-	Brown gravelly silty sand	3.8	35	-
629565	-	CT7	-	-	Brown gravelly sandy silty clay with rare plastic	12	15	-

[illegible]

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number								
3	cadmium { cadmium sulfate }				6.6 mg/kg	1.855	10.404 mg/kg	0.00104 %	✓		
	048-009-00-9	233-331-6	10124-36-4								
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				1.8 mg/kg	1.462	2.236 mg/kg	0.000224 %	✓		
		215-160-9	1308-38-9								
5	copper { copper sulphate pentahydrate }				480 mg/kg	3.929	1603.054 mg/kg	0.16 %	✓		
	029-023-00-4	231-847-6	7758-99-8								
6	mercury { mercury dichloride }				<2.5 mg/kg	1.353	<3.384 mg/kg	<0.000338 %			<LOD
	080-010-00-X	231-299-8	7487-94-7								
7	nickel { nickel chromate }				110 mg/kg	2.976	278.281 mg/kg	0.0278 %	✓		
	028-035-00-7	238-766-5	14721-18-7								
8	lead { lead chromate }			1	410 mg/kg	1.56	543.596 mg/kg	0.0349 %	✓		
	082-004-00-2	231-846-0	7758-97-6								
9	selenium { selenium compounds with the exception of cadmium selenide and those specified elsewhere in this Annex }				<8 mg/kg	1.405	<11.24 mg/kg	<0.00112 %			<LOD
	034-002-00-8										
10	zinc { zinc chromate }				940 mg/kg	2.774	2216.543 mg/kg	0.222 %	✓		
	024-007-00-3	236-878-9	13530-65-9								
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1 mg/kg	1.923	<1.923 mg/kg	<0.000192 %			<LOD
	024-001-00-0	215-607-8	1333-82-0								
12	TPH (C6 to C40) petroleum group				920 mg/kg		782 mg/kg	0.0782 %	✓		
			TPH								
13	naphthalene				0.2 mg/kg		0.17 mg/kg	0.000017 %	✓		
	601-052-00-2	202-049-5	81-20-3								
14	acenaphthylene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
		205-917-1	208-96-8								
15	acenaphthene				0.55 mg/kg		0.468 mg/kg	0.0000468 %	✓		
		201-469-6	83-32-9								
16	fluorene				0.76 mg/kg		0.646 mg/kg	0.0000646 %	✓		
		201-695-5	86-73-7								
17	phenanthrene				0.49 mg/kg		0.417 mg/kg	0.0000416 %	✓		
		201-581-5	85-01-8								
18	anthracene				0.34 mg/kg		0.289 mg/kg	0.0000289 %	✓		
		204-371-1	120-12-7								
19	fluoranthene				1 mg/kg		0.85 mg/kg	0.000085 %	✓		
		205-912-4	206-44-0								
20	pyrene				1.7 mg/kg		1.445 mg/kg	0.000145 %	✓		
		204-927-3	129-00-0								
21	benzo[a]anthracene				1.5 mg/kg		1.275 mg/kg	0.000127 %	✓		
	601-033-00-9	200-280-6	56-55-3								
22	chrysene				1.5 mg/kg		1.275 mg/kg	0.000127 %	✓		
	601-048-00-0	205-923-4	218-01-9								
23	benzo[b]fluoranthene				1.4 mg/kg		1.19 mg/kg	0.000119 %	✓		
	601-034-00-4	205-911-9	205-99-2								
24	benzo[k]fluoranthene				0.56 mg/kg		0.476 mg/kg	0.0000476 %	✓		
	601-036-00-5	205-916-6	207-08-9								
25	benzo[a]pyrene; benzo[def]chrysene				2.2 mg/kg		1.87 mg/kg	0.000187 %	✓		
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				1.5 mg/kg		1.275 mg/kg	0.000127 %	✓		
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				0.38 mg/kg		0.323 mg/kg	0.0000323 %	✓		
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				1.9 mg/kg		1.615 mg/kg	0.000162 %	✓		
		205-883-8	191-24-2								
29	PAHs (total)				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
30	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %			<LOD
	601-020-00-8	200-753-7	71-43-2								

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
31	toluene				0.05 mg/kg		0.0425 mg/kg	0.00000425 %	✓	
	601-021-00-3	203-625-9	108-88-3							
32	ethylbenzene				0.02 mg/kg		0.017 mg/kg	0.0000017 %	✓	
	601-023-00-4	202-849-4	100-41-4							
33	xylene				0.09 mg/kg		0.0765 mg/kg	0.00000765 %	✓	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								0.532 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: HP 3 Flammable : components of concern : TPH HP 3 can be discounted as this is a solid waste without a free draining liquid phase. Ref:Guidance on the classification and assessment of waste (1st Edition v1.1) Technical Guidance WM3, 2021.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinands:

toluene (conc.: 4.25e-06%)

ethylbenzene (conc.: 1.7e-06%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group (conc.: 0.0782%)

xylene (conc.: 7.65e-06%)

Classification of sample: CT3[2]

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
CT3[2]	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
2.10 m	
Moisture content:	
9.2%	
(wet weight correction)	

Hazard properties

None identified

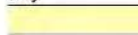
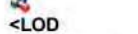
Determinands

Moisture content: 9.2% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH		PH		8	pH		8	pH	8pH		
2	arsenic { arsenic trioxide }				19	mg/kg	1.32	22.778	mg/kg	0.00228 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfate }				2	mg/kg	1.855	3.368	mg/kg	0.000337 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				<1	mg/kg	1.462	<1.462	mg/kg	<0.000146 %		<LOD
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				71	mg/kg	3.929	253.298	mg/kg	0.0253 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				31	mg/kg	2.976	83.776	mg/kg	0.00838 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	50	mg/kg	1.56	70.816	mg/kg	0.00454 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				110	mg/kg	2.774	277.082	mg/kg	0.0277 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	TPH (C6 to C40) petroleum group		TPH		<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
13	naphthalene				0.02	mg/kg		0.0182	mg/kg	0.00000182 %	✓	
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
15	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
17	phenanthrene	201-581-5	85-01-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
18	anthracene	204-371-1	120-12-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
19	fluoranthene	205-912-4	206-44-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
20	pyrene	204-927-3	129-00-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
26	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
28	benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	PAHs (total)				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
30	benzene	601-020-00-8	200-753-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31	toluene	601-021-00-3	203-625-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32	ethylbenzene	601-023-00-4	202-849-4		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
Total:								0.0686 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: CT4

 **Hazardous Waste**
Classified as **17 05 03 ***
in the List of Waste

Sample details

Sample name:	LoW Code:	
CT4	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry:	17 05 03 * (Soil and stones containing hazardous substances)
0.70 m		
Moisture content:		
8.9%		
(wet weight correction)		

Hazard properties

HP 7: Carcinogenic "waste which induces cancer or increases its incidence"

Hazard Statements hit:

Carc. 1A; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

zinc chromate (compound conc.: 1.466%)

Carc. 1B; H350 "May cause cancer [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

lead chromate (Note 1 conc.: 1.002%)

Carc. 1A; H350i "May cause cancer by inhalation."

Because of determinand:

nickel chromate (compound conc.: 0.461%)

HP 10: Toxic for reproduction "waste which has adverse effects on sexual function and fertility in adult males and females, as well as developmental toxicity in the offspring"

Hazard Statements hit:

Repr. 1A; H360Df "May damage the unborn child. Suspected of damaging fertility."

Because of determinand:

lead chromate (Note 1 conc.: 1.002%)

HP 14: Ecotoxic "waste which presents or may present immediate or delayed risks for one or more sectors of the environment"

Hazard Statements hit:

Aquatic Chronic 1; H410 "Very toxic to aquatic life with long lasting effects."

Because of determinands:

copper sulphate pentahydrate (compound conc.: 4.295%)

nickel chromate (compound conc.: 0.461%)

lead chromate (Note 1 conc.: 1.002%)

zinc chromate (compound conc.: 1.466%)

Determinands

Moisture content: 8.9% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	* pH				7.7	pH		7.7	pH	7.7 pH		
2	arsenic { arsenic trioxide }				38	mg/kg	1.32	45.707	mg/kg	0.00457 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfate }				20	mg/kg	1.855	33.79	mg/kg	0.00338 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				160	mg/kg	1.462	213.036	mg/kg	0.0213 %	✓	
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				12000	mg/kg	3.929	42952.407	mg/kg	4.295 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				1700	mg/kg	2.976	4609.341	mg/kg	0.461 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	11000	mg/kg	1.56	15630.908	mg/kg	1.002 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulposelenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				5800	mg/kg	2.774	14658.035	mg/kg	1.466 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	* TPH (C6 to C40) petroleum group				370	mg/kg		337.07	mg/kg	0.0337 %	✓	
			TPH									
13	naphthalene				0.16	mg/kg		0.146	mg/kg	0.0000146 %	✓	
	601-052-00-2	202-049-5	91-20-3									
14	* acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
15	* acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									
16	* fluorene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-695-5	86-73-7									
17	* phenanthrene				0.14	mg/kg		0.128	mg/kg	0.0000128 %	✓	
		201-581-5	85-01-8									
18	* anthracene				0.03	mg/kg		0.0273	mg/kg	0.00000273 %	✓	
		204-371-1	120-12-7									
19	* fluoranthene				0.07	mg/kg		0.0638	mg/kg	0.00000638 %	✓	
		205-912-4	206-44-0									
20	* pyrene				0.08	mg/kg		0.0729	mg/kg	0.00000729 %	✓	
		204-927-3	129-00-0									
21	benzo[a]anthracene				0.03	mg/kg		0.0273	mg/kg	0.00000273 %	✓	
	601-033-00-9	200-280-6	56-55-3									
22	chrysene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-048-00-0	205-923-4	218-01-9									
23	benzo[b]fluoranthene				0.04	mg/kg		0.0364	mg/kg	0.00000364 %	✓	
	601-034-00-4	205-911-9	205-99-2									
24	benzo[k]fluoranthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-036-00-5	205-916-6	207-08-9									
25	benzo[a]pyrene; benzo[def]chrysene				0.03	mg/kg		0.0273	mg/kg	0.00000273 %	✓	
	601-032-00-3	200-028-5	50-32-8									
26	* indeno[123-cd]pyrene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-893-2	193-39-5									
27	dibenz[a,h]anthracene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
	601-041-00-2	200-181-8	53-70-3									
28	* benzo[ghi]perylene				0.03	mg/kg		0.0273	mg/kg	0.00000273 %	✓	
		205-883-8	191-24-2									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
29	PAHs (total)				0.16 mg/kg		0.146 mg/kg	0.0000146 %	✓	
30	benzene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-020-00-8	200-753-7	71-43-2							
31	toluene				<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
	601-021-00-3	203-625-9	108-88-3							
32	ethylbenzene				0.02 mg/kg		0.0182 mg/kg	0.00000182 %	✓	
	601-023-00-4	202-849-4	100-41-4							
33	xylene				0.06 mg/kg		0.0547 mg/kg	0.00000547 %	✓	
	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]							
Total:								7.287 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Hazardous result
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: HP 3 Flammable : components of concern : TPH HP 3 can be discounted as this is a solid waste without a free draining liquid phase. Ref:Guidance on the classification and assessment of waste (1st Edition v1.1) Technical Guidance WM3, 2021.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinand:

ethylbenzene (conc.: 1.82e-06%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group (conc.: 0.0337%)

xylene (conc.: 5.47e-06%)

Classification of sample: CT4[2]

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	CT4[2]	LoW Code:	
Sample Depth:	2.00 m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	23% (wet weight correction)	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 23% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				7.6	pH		7.6	pH	7.6 pH		
2	arsenic { arsenic trioxide }				14	mg/kg	1.32	14.233	mg/kg	0.00142 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfate }				2.1	mg/kg	1.855	2.999	mg/kg	0.0003 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				5.7	mg/kg	1.462	6.415	mg/kg	0.000641 %	✓	
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				76	mg/kg	3.929	229.928	mg/kg	0.023 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				38	mg/kg	2.976	87.086	mg/kg	0.00871 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	58	mg/kg	1.56	69.661	mg/kg	0.00447 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				170	mg/kg	2.774	363.136	mg/kg	0.0363 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	TPH (C6 to C40) petroleum group				32	mg/kg		24.64	mg/kg	0.00246 %	✓	
			TPH									
13	naphthalene				0.02	mg/kg		0.0154	mg/kg	0.00000154 %	✓	
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
15	acenaphthene				0.03	mg/kg		0.0231	mg/kg	0.00000231 %	✓	
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluorene	201-695-5	86-73-7		0.04 mg/kg		0.0308 mg/kg	0.00000308 %	✓	
17	phenanthrene	201-581-5	85-01-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
18	anthracene	204-371-1	120-12-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
19	fluoranthene	205-912-4	206-44-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
20	pyrene	204-927-3	129-00-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
26	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
28	benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	PAHs (total)				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
30	benzene	601-020-00-8	200-753-7		0.02 mg/kg		0.0154 mg/kg	0.00000154 %	✓	
31	toluene	601-021-00-3	203-625-9		0.05 mg/kg		0.0385 mg/kg	0.00000385 %	✓	
32	ethylbenzene	601-023-00-4	202-849-4		0.02 mg/kg		0.0154 mg/kg	0.00000154 %	✓	
33	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		0.1 mg/kg		0.077 mg/kg	0.0000077 %	✓	
Total:								0.0773 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: HP 3 Flammable : components of concern : TPH HP 3 can be discounted as this is a solid waste without a free draining liquid phase. Ref:Guidance on the classification and assessment of waste (1st Edition v1.1) Technical Guidance WM3, 2021.

Hazard Statements hit:

Flam. Liq. 2; H225 "Highly flammable liquid and vapour."

Because of determinands:

benzene (conc.: 1.54e-06%)
toluene (conc.: 3.85e-06%)
ethylbenzene (conc.: 1.54e-06%)

Flam. Liq. 3; H226 "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group (conc.: 0.00246%)
xylene (conc.: 7.7e-06%)

Classification of sample: CT5

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
CT5	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.20 m	
Moisture content:	
4.4%	
(wet weight correction)	

Hazard properties

None identified

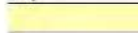
Determinands

Moisture content: 4.4% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH		PH		7.8	pH		7.8	pH	7.8 pH		
2	arsenic { arsenic trioxide }				14	mg/kg	1.32	17.671	mg/kg	0.00177 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfate }				2.8	mg/kg	1.855	4.964	mg/kg	0.000496 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				9	mg/kg	1.462	12.575	mg/kg	0.00126 %	✓	
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				630	mg/kg	3.929	2366.39	mg/kg	0.237 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				46	mg/kg	2.976	130.884	mg/kg	0.0131 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	460	mg/kg	1.56	685.944	mg/kg	0.044 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				210	mg/kg	2.774	556.938	mg/kg	0.0557 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	TPH (C6 to C40) petroleum group		TPH		19	mg/kg		18.164	mg/kg	0.00182 %	✓	
13	naphthalene				0.02	mg/kg		0.0191	mg/kg	0.00000191 %	✓	
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				0.02	mg/kg		0.0191	mg/kg	0.00000191 %	✓	
		205-917-1	208-96-8									
15	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
17	phenanthrene	201-581-5	85-01-8		0.04 mg/kg		0.0382 mg/kg	0.00000382 %	✓	
18	anthracene	204-371-1	120-12-7		0.03 mg/kg		0.0287 mg/kg	0.00000287 %	✓	
19	fluoranthene	205-912-4	206-44-0		0.21 mg/kg		0.201 mg/kg	0.0000201 %	✓	
20	pyrene	204-927-3	129-00-0		0.19 mg/kg		0.182 mg/kg	0.0000182 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6		0.13 mg/kg		0.124 mg/kg	0.0000124 %	✓	
22	chrysene	601-048-00-0	205-923-4		0.11 mg/kg		0.105 mg/kg	0.0000105 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.19 mg/kg		0.182 mg/kg	0.0000182 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.08 mg/kg		0.0765 mg/kg	0.00000765 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.17 mg/kg		0.163 mg/kg	0.0000163 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		0.13 mg/kg		0.124 mg/kg	0.0000124 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		0.03 mg/kg		0.0287 mg/kg	0.00000287 %	✓	
28	benzo[ghi]perylene	205-883-8	191-24-2		0.13 mg/kg		0.124 mg/kg	0.0000124 %	✓	
29	PAHs (total)				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
30	benzene	601-020-00-8	200-753-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31	toluene	601-021-00-3	203-625-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32	ethylbenzene	601-023-00-4	202-849-4		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33	xylene	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]	95-47-6 [1] 106-42-3 [2] 108-38-3 [3] 1330-20-7 [4]		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
Total:								0.355 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: HP 3 Flammable : components of concern : TPH HP 3 can be discounted as this is a solid waste without a free draining liquid phase. Ref:Guidance on the classification and assessment of waste (1st Edition v1.1) Technical Guidance WM3, 2021.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."



Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00182%)

Classification of sample: CT5[2]

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	CT5[2]	LoW Code:	
Sample Depth:	2.70 m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	25%	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
(wet weight correction)			

Hazard properties

None identified

Determinands

Moisture content: 25% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				7.7	pH		7.7	pH	7.7 pH		
2	arsenic { arsenic trioxide }				<10	mg/kg	1.32	<13.203	mg/kg	<0.00132 %		<LOD
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfate }				1	mg/kg	1.855	1.391	mg/kg	0.000139 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				<1	mg/kg	1.462	<1.462	mg/kg	<0.000146 %		<LOD
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				19	mg/kg	3.929	55.989	mg/kg	0.0056 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				20	mg/kg	2.976	44.644	mg/kg	0.00446 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	11	mg/kg	1.56	12.868	mg/kg	0.000825 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				54	mg/kg	2.774	112.353	mg/kg	0.0112 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	TPH (C6 to C40) petroleum group				28	mg/kg		21	mg/kg	0.0021 %	✓	
			TPH									
13	naphthalene				0.02	mg/kg		0.015	mg/kg	0.0000015 %	✓	
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
15	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
17	phenanthrene	201-581-5	85-01-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
18	anthracene	204-371-1	120-12-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
19	fluoranthene	205-912-4	206-44-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
20	pyrene	204-927-3	129-00-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
26	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
28	benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	PAHs (total)				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
30	benzene	601-020-00-8	200-753-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31	toluene	601-021-00-3	203-625-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32	ethylbenzene	601-023-00-4	202-849-4		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
Total:								0.0244 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: HP 3 Flammable : components of concern : TPH HP 3 can be discounted as this is a solid waste without a free draining liquid phase. Ref:Guidance on the classification and assessment of waste (1st Edition v1.1) Technical Guidance WM3, 2021.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."



Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.0021%)

Classification of sample: CT6

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	LoW Code:
CT6	Chapter: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Sample Depth:	Entry: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)
0.20 m	
Moisture content:	
8.6%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 8.6% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH		PH		7.2	pH		7.2	pH	7.2 pH		
2	arsenic { arsenic trioxide }				18	mg/kg	1.32	21.722	mg/kg	0.00217 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfate }				1.7	mg/kg	1.855	2.882	mg/kg	0.000288 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				3.5	mg/kg	1.462	4.676	mg/kg	0.000468 %	✓	
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				21	mg/kg	3.929	75.414	mg/kg	0.00754 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				21	mg/kg	2.976	57.126	mg/kg	0.00571 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	32	mg/kg	1.56	45.621	mg/kg	0.00292 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				69	mg/kg	2.774	174.954	mg/kg	0.0175 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	TPH (C6 to C40) petroleum group		TPH		20	mg/kg		18.28	mg/kg	0.00183 %	✓	
13	naphthalene				0.02	mg/kg		0.0183	mg/kg	0.00000183 %	✓	
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
15	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
17	phenanthrene	201-581-5	85-01-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
18	anthracene	204-371-1	120-12-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
19	fluoranthene	205-912-4	206-44-0		0.08 mg/kg		0.0731 mg/kg	0.00000731 %	✓	
20	pyrene	204-927-3	129-00-0		0.07 mg/kg		0.064 mg/kg	0.0000064 %	✓	
21	benzo[a]anthracene	601-033-00-9	200-280-6		0.05 mg/kg		0.0457 mg/kg	0.00000457 %	✓	
22	chrysene	601-048-00-0	205-923-4		0.04 mg/kg		0.0366 mg/kg	0.00000366 %	✓	
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		0.06 mg/kg		0.0548 mg/kg	0.00000548 %	✓	
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		0.02 mg/kg		0.0183 mg/kg	0.00000183 %	✓	
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		0.05 mg/kg		0.0457 mg/kg	0.00000457 %	✓	
26	indeno[123-cd]pyrene	205-893-2	193-39-5		0.03 mg/kg		0.0274 mg/kg	0.00000274 %	✓	
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
28	benzo[ghi]perylene	205-883-8	191-24-2		0.04 mg/kg		0.0366 mg/kg	0.00000366 %	✓	
29	PAHs (total)				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
30	benzene	601-020-00-8	200-753-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31	toluene	601-021-00-3	203-625-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32	ethylbenzene	601-023-00-4	202-849-4		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
Total:								0.0385 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: HP 3 Flammable : components of concern : TPH HP 3 can be discounted as this is a solid waste without a free draining liquid phase. Ref:Guidance on the classification and assessment of waste (1st Edition v1.1) Technical Guidance WM3, 2021.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."



Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00183%)

Classification of sample: CT7

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	CT7	LoW Code:	
Sample Depth:	0.50 m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	3.8% (wet weight correction)	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 3.8% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				7.9	pH		7.9	pH	7.9 pH		
2	arsenic { arsenic trioxide }				13	mg/kg	1.32	16.512	mg/kg	0.00165 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfate }				1.2	mg/kg	1.855	2.141	mg/kg	0.000214 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				<1	mg/kg	1.462	<1.462	mg/kg	<0.000146 %		<LOD
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				12	mg/kg	3.929	45.357	mg/kg	0.00454 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				22	mg/kg	2.976	62.99	mg/kg	0.0063 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	5.9	mg/kg	1.56	8.853	mg/kg	0.000568 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				40	mg/kg	2.774	106.749	mg/kg	0.0107 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	TPH (C6 to C40) petroleum group				<10	mg/kg		<10	mg/kg	<0.001 %		<LOD
			TPH									
13	naphthalene				0.02	mg/kg		0.0192	mg/kg	0.00000192 %	✓	
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
15	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
17	phenanthrene	201-581-5	85-01-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
18	anthracene	204-371-1	120-12-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
19	fluoranthene	205-912-4	206-44-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
20	pyrene	204-927-3	129-00-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
26	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
28	benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	PAHs (total)				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
30	benzene	601-020-00-8	200-753-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31	toluene	601-021-00-3	203-625-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32	ethylbenzene	601-023-00-4	202-849-4		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
Total:								0.0239 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: CT7[2]

✔ **Non Hazardous Waste**
Classified as **17 05 04**
in the List of Waste

Sample details

Sample name:	CT7[2]	LoW Code:	
Sample Depth:	2.00 m	Chapter:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
Moisture content:	12% (wet weight correction)	Entry:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)

Hazard properties

None identified

Determinands

Moisture content: 12% Wet Weight Moisture Correction applied (MC)

#	Determinand			CLP Note	User entered data		Conv. Factor	Compound conc.		Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number									
1	pH				8.1	pH		8.1	pH	8.1 pH		
2	arsenic { arsenic trioxide }				16	mg/kg	1.32	18.59	mg/kg	0.00186 %	✓	
	033-003-00-0	215-481-4	1327-53-3									
3	cadmium { cadmium sulfate }				1.6	mg/kg	1.855	2.611	mg/kg	0.000261 %	✓	
	048-009-00-9	233-331-6	10124-36-4									
4	chromium in Cr(III) compounds { chromium(III) oxide (worst case) }				<1	mg/kg	1.462	<1.462	mg/kg	<0.000146 %		<LOD
		215-160-9	1308-38-9									
5	copper { copper sulphate pentahydrate }				15	mg/kg	3.929	51.863	mg/kg	0.00519 %	✓	
	029-023-00-4	231-847-6	7758-99-8									
6	mercury { mercury dichloride }				<2.5	mg/kg	1.353	<3.384	mg/kg	<0.000338 %		<LOD
	080-010-00-X	231-299-8	7487-94-7									
7	nickel { nickel chromate }				21	mg/kg	2.976	55.001	mg/kg	0.0055 %	✓	
	028-035-00-7	238-766-5	14721-18-7									
8	lead { lead chromate }			1	10	mg/kg	1.56	13.726	mg/kg	0.00088 %	✓	
	082-004-00-2	231-846-0	7758-97-6									
9	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<8	mg/kg	1.405	<11.24	mg/kg	<0.00112 %		<LOD
	034-002-00-8											
10	zinc { zinc chromate }				51	mg/kg	2.774	124.504	mg/kg	0.0125 %	✓	
	024-007-00-3	236-878-9	13530-65-9									
11	chromium in Cr(VI) compounds { chromium(VI) oxide }				<1	mg/kg	1.923	<1.923	mg/kg	<0.000192 %		<LOD
	024-001-00-0	215-607-8	1333-82-0									
12	TPH (C6 to C40) petroleum group				21	mg/kg		18.48	mg/kg	0.00185 %	✓	
			TPH									
13	naphthalene				0.02	mg/kg		0.0176	mg/kg	0.00000176 %	✓	
	601-052-00-2	202-049-5	91-20-3									
14	acenaphthylene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		205-917-1	208-96-8									
15	acenaphthene				<0.02	mg/kg		<0.02	mg/kg	<0.000002 %		<LOD
		201-469-6	83-32-9									

#	Determinand			CLP Note	User entered data	Conv. Factor	Compound conc.	Classification value	MC Applied	Conc. Not Used
	EU CLP index number	EC Number	CAS Number							
16	fluorene	201-695-5	86-73-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
17	phenanthrene	201-581-5	85-01-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
18	anthracene	204-371-1	120-12-7		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
19	fluoranthene	205-912-4	206-44-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
20	pyrene	204-927-3	129-00-0		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
21	benzo[a]anthracene	601-033-00-9	200-280-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
22	chrysene	601-048-00-0	205-923-4		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
23	benzo[b]fluoranthene	601-034-00-4	205-911-9		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
24	benzo[k]fluoranthene	601-036-00-5	205-916-6		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
25	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
26	indeno[123-cd]pyrene	205-893-2	193-39-5		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
27	dibenz[a,h]anthracene	601-041-00-2	200-181-8		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
28	benzo[ghi]perylene	205-883-8	191-24-2		<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
29	PAHs (total)				<0.02 mg/kg		<0.02 mg/kg	<0.000002 %		<LOD
30	benzene	601-020-00-8	200-753-7		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
31	toluene	601-021-00-3	203-625-9		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
32	ethylbenzene	601-023-00-4	202-849-4		<0.01 mg/kg		<0.01 mg/kg	<0.000001 %		<LOD
33	xylene	601-022-00-9	202-422-2 [1] 203-396-5 [2] 203-576-3 [3] 215-535-7 [4]		<0.03 mg/kg		<0.03 mg/kg	<0.000003 %		<LOD
Total:								0.028 %		

Key

	User supplied data
	Determinand values ignored for classification, see column 'Conc. Not Used' for reason
	Determinand defined or amended by HazWasteOnline (see Appendix A)
	Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
<LOD	Below limit of detection
CLP: Note 1	Only the metal concentration has been used for classification

Supplementary Hazardous Property Information

HP 3(i): Flammable "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous Property to non-hazardous for cumulative determinand results below the concentration of: 500 mg/kg (0.05%) because: HP 3 Flammable : components of concern : TPH HP 3 can be discounted as this is a solid waste without a free draining liquid phase. Ref:Guidance on the classification and assessment of waste (1st Edition v1.1) Technical Guidance WM3, 2021.

Hazard Statements hit:

Flam. Liq. 3; H226 "Flammable liquid and vapour."



Because of determinand:

TPH (C6 to C40) petroleum group (conc.: 0.00185%)

Appendix A: Classifier defined and non GB MCL determinands

■ pH (CAS Number: PH)

Description/Comments: Appendix C4

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

■ chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Description/Comments: Data from C&L Inventory Database

Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H332, Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Resp. Sens. 1; H334, Skin Sens. 1; H317, Repr. 1B; H360FD, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ TPH (C6 to C40) petroleum group (CAS Number: TPH)

Description/Comments: Unknown Oil

Hazard statements taken from WM3 1st Edition 2015

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Flam. Liq. 3; H226, Asp. Tox. 1; H304, STOT RE 2; H373, Muta. 1B; H340, Carc. 1B; H350, Repr. 2; H361d, Aquatic Chronic 2; H411

■ acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Acute Tox. 4; H302, Acute Tox. 1; H330, Acute Tox. 1; H310, Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315

■ acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Aquatic Chronic 2; H411

■ fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Eye Irrit. 2; H319, STOT SE 3; H335, Carc. 2; H351, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410, Skin Irrit. 2; H315

■ anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 17 Jul 2015

Hazard Statements: Eye Irrit. 2; H319, STOT SE 3; H335, Skin Irrit. 2; H315, Skin Sens. 1; H317, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Acute Tox. 4; H302, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

■ pyrene (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Skin Irrit. 2; H315, Eye Irrit. 2; H319, STOT SE 3; H335, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

