

Preliminary Geo-Environmental Site Investigation Report

At:

Armoury Drive,
Gravesend,
Kent,
DA12 1CT

For:

The Longley Group

Private and Confidential

Ref: 4551 22 04 21 Rpt 06 Rev B EH CW

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Quality Assurance Control Sheet

This report has been produced in accordance with the Sevenoaks Environmental Consultancy Quality Assurance System			
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	Consultant's Name	Consultant's Signature	Date
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1.0 Introduction

The work covered in this report was undertaken on behalf of The Longley Group Ltd in accordance with Sevenoaks Environmental Consultancy Ltd.'s (SEC) proposal dated 5th January 2022 (Ref: 4551 22 01 05 Ltr 01 FPA 01 REV B LB CW).

The site currently comprises an approximately 'L' shaped plot which was previously occupied by a former St Johns Ambulance garage building and 1 No. Water Tower Structure (see Appendix A Figure 1 – Site Location Plan and Figure 2 Existing Site Layout Plan). The proposed development involves the demolition of the existing structures to make way for the construction of 1 No. 2-storey block of flats to the western end of the site and 2No. detached bungalows to the eastern end with gardens and areas of soft landscaping (see Appendix A Figure 3 Proposed Site Layout Plan).

SEC note that at the time of this assessment, the Client had carried out the partial demolition of the former St Johns Ambulance garage which included breaking out the garage ground slab and removal of some of the walls.

This site investigation has been conducted in relation to Condition 5 of Planning Permission (Ref:2020/0561), further to the findings of a previous Desk Study Report that was produced for the site in August 2019 by others. It is understood that the previous Desk Study has been approved by the Regulators.

This current report includes a review of the findings from the previous Geo-Environmental Desk Study provided to SEC by the Client (Ref: 17753/PIR_R26), describes the fieldwork and laboratory testing undertaken as part of this current ground investigation, reviews the test results in the light of current guidance, provides an updated Conceptual Site Model based on a source-pathway-receptor linkage qualitative risk assessment in relation to Contaminated Land and presents recommendations as appropriate.

Sevenoaks Environmental Consultancy have also produced other reports for the site which are presented under separate covers and include;

- A Preliminary Geo-Environmental Site Investigation Report (Ref: 4551 22 04 05 Rpt 06 Rev A EH CW);
- An Archaeological watching brief on Site Investigation Report (Ref: 4551 22 03 08 Rpt 02 REV A EH CW);
- A CCTV Drainage Survey Report (Ref: 4551 22 03 21 Rpt CCTV Survey); and
- A Service Detection Survey (Ref: 4551 22 03 21 Rpt Service Detection Survey)

These other reports should be read in conjunction with this report.

It is noted that a Ground Gas Risk Assessment Addendum to this report will be produced following the completion of the ground gas monitoring that is ongoing currently.

Gravesend Borough Council

2.0 Site Description

2.1 Site Location

The site was located at Armoury Drive, Gravesend, DA12 1NB on Ordnance Survey (OS) national grid reference of 565119, 173559 (see Appendix A – Figure 1 Site Location Plan).

2.2 Site Setting and Topography

The site was situated within a predominantly residential setting with residential dwellings in all directions together with a school to the west. The ground level across the site appeared to slope downwards slightly towards the east.

2.3 Site Description

The site was accessible off Albert Murray Close via the northwest corner of the site or off Armoury Drive via the eastern boundary of site. The site formed an approximately 'L' shaped plot of land occupied by a single former St Johns Ambulance garage building and a water tower, both of which were located to the western side of the site with associated areas of hardstanding and soft landscaping (see Appendix B Site Photos).

At the time of SEC's initial site visit to undertake the service detection survey on 17th February 2022 the St Johns Ambulance garage was noted to have comprised 3No. rooms with a concrete floor. The garage appeared to have been used for storage and parking rather than for vehicle repairs or maintenance and no heavy oil staining was noted. At this time the floor slab appeared to be in good condition. In addition no vehicle maintenance equipment or any vehicle inspection pits were observed. The garage appeared therefore to have been used to store materials associated with St Johns Ambulance.

However, it is noted that at the time of the Site Investigation fieldwork (conducted in late February a couple of weeks after the service detection survey), the Client had proceeded with the demolition of the garage building. The extent of the demolition included the breaking of the concrete ground slab and removal of some of the walls. The western and eastern walls have been removed to half height with the southern wall demolished to 3-quarters height.

The Water Tower also comprised of 3No. rooms, with 2No. in the east of the building containing toilets and sinks with a large main room in the west of the building which was a toilet area. Situated on top of the building is the Former Milton Barracks Water Tower which is understood to be an archaeologically sensitive building and specific Planning Conditions relate to this building archaeologically.

Externally to the buildings was a bituminous surfaced access drive, orientated from Armoury Drive along the length of the site in an east to west direction. Soft landscaping was observed to the east of both the Water Tower and garage buildings. Along the southern and western boundary was a wall associated with the

Former Milton Barracks which is understood to also be archaeologically sensitive. 3 No. protected trees were also located to the west of the site.

Off Site, adjacent to the north, south, east and west are residential dwellings with the River Thames approximately 900m to the north.

It is noted that at the time of the GPR Service Detection Survey that the manhole immediately adjacent to site within Albert Murray Close was lifted and a strong methane odour was noted. Southern Gas Networks (SGN) were subsequently called to investigate a possible gas leak. At the time of the Site Investigation a couple of weeks after the service detection survey, the Client informed SEC that a leak had been identified and been fixed by SGN, however the manhole did still exhibit a methane odour when lifted.

SEC would also note the presence of a yellow hazardous waste wheelie bin (UN Code 6 – Infectious Substance bin) which SEC note appeared to contain Potential Asbestos Containing Materials (ACMs) with the lid of the bin unable to be shut.

2.4 Current Site Activity

The site was disused and redevelopment had commenced with the partial demolition of the former St Johns Ambulance garage as described above.

2.5 Proposed Site Activity

We understand that the proposed development involves the demolition of both the former St Johns Ambulance garage and Water Tower to make way for the erection of 1No. 2-storey block of flats to the west and 2No. detached bungalows to the east with associated hardstanding and soft landscaping for all three properties.

3.0 Review of Previous Reports

3.1 Phase 1 Geo-Environmental Desk Study Report by Soils Ltd (Ref: 17753/PIR_R26) Dated August 2019:

The previous Desk Study Report was written as part of a pre-planning exercise based on a proposed end use for the site consisting of four different possible residential redevelopment options. It was understood that the preferred development was based on 2No. bungalows and 1No. block of 2-storey flat which is the same scheme that this current assessment is based upon.

The site layout and usage noted in the previous Desk Study Report was generally consistent with the existing layout at the time of writing this current assessment except for the commencement of demolition of the St Johns Ambulance garage building.

Historically the Desk Study reported that the site comprised an undeveloped plot until 1874 when water tower and garage were built. The site then remained unchanged until present day. Off site, between 1866 to 1874 a chalk pit was identified ~200m to the north of the site and a rail line ~140m north, with several tanks noted between 1954 to 1981 ~76m northeast.

The published geology locally to the site was recorded to be Thanet Formation bedrock over Lewes Nodular Chalk Formation with no overlying superficial deposits. The Thanet Formation was classified as a Secondary A Aquifer and the Lewes Chalk was noted to be a Principal Aquifer.

Potential on site sources identified included an electrical substation from 1951 [although it is noted that based on the site area for the current redevelopment scheme, the substation is located outside of the site footprint and is therefore actually off site], site use as Gravesend Barracks with a garage between 1874 and 1981, an above ground storage tank since 1936 [SEC understands from anecdotal information provided by the Client that the tank related to a water supply tank, although no formal documentation has been provided to SEC to confirm this].

Many potential off-site sources were listed in the desk study and these have been summarised below; a infilled chalk pit ~167m north east of the site between 1866 and 1897, tanks identified ~48m and 76m east and north east between 1954 and 1993 respectively and a garage identified ~142m north west between 1954 and 1999.

4.0 Description of Field Works

4.1 General

SEC attended the site to conduct the site investigation fieldwork on 25th February 2022 (See Appendix B for Site Photos).

The scope of intrusive investigation conducted comprised the following:

- Production of RAMS (including initial safety checks such as a preliminary UXO Risk Assessment (see Appendix C – Preliminary UXO Risk Assessment);
- Full time Site Supervision by a SEC Engineer to record ground conditions to BS5930 / Eurocode 7 & and CIRIA 574, collect samples and document the investigation;
- Site attendance by a UXO Engineer to provide a Watching Brief and help to manage risk associated with UXO's
- Conduct of hand dug starter pits up to 1.2m bgl (including the use of a Cable Avoidance Tool (CAT) to help avoid to buried services and supplement boreholes);
- Conduct of 5 No. Continuous Dynamic Sampler mini boreholes up to 4m bgl (WS01 – WS05);
- Installation of environmental monitoring pipework within mini boreholes;
- Conduct of environmental ground gas and groundwater monitoring visits (note that the Ground Gas Risk Assessment will be presented separately as an Addendum to this report upon completion of the monitoring which is ongoing currently)
- Chemical laboratory analysis of recovered soil and groundwater samples for No-Source specific range of determinands based upon the sources of contamination identified by the Desk Study including Metals, speciated PAHs, Phenols, TPH and Asbestos Presence / Absence and VOC's.
- Conduct of more detailed chemical laboratory analysis of samples subject to findings on site (e.g. TPH A/A split, VOC's or asbestos quantification)
- Chemical laboratory WAC analysis in relation to Waste Soil Disposal to landfill;
- Production of a Preliminary Geo-Environmental Site Investigation Report; and
- WM3 Waste Soil Classification Assessment to derive waste classification codes.

The exploratory holes conducted were positioned by SEC to target sources previously identified by the Desk Study and provide good general coverage (see Appendix A Figure 4 – Exploratory Hole Location Plan).

4.2 Chemical Laboratory Analysis

Soil samples were collected from the exploratory holes and were sent for analysis at an independent UKAS and MCERTS accredited laboratory.

Soil samples recovered from the Made Ground and underlying natural material were analysed for a range of determinands taking into consideration visual and olfactory observations made on site during the fieldwork and previous and recent site usage as identified by the earlier Desk Study. Analysis of metals, speciated PAHs and TPHs, phenols, VOC's, asbestos and pH was conducted.

5.0 Ground Conditions

5.1 Lithology

Detailed information relating to the strata encountered was recorded on Exploratory Hole Records, which are presented in Appendix D. A summary of the ground conditions encountered is however presented below.

Made Ground

All exploratory hole locations were positioned within soft landscaping with the exception of WS01 which was laid to bituminous surfacing. Made Ground was encountered in all exploratory holes, ranging in depths up to between 0.25m bgl (WS04) and 1.35m bgl (WS05). Generally, the Made Ground was observed to have comprised dark brown slightly sandy gravelly Clay with flint, brick, concrete and tile.

Natural Ground

Underlying natural deposits comprised grey mottled orange slightly silty fine Sand proven up to 4.45m bgl. These findings were considered generally consistent with the ground conditions indicated for the local area by the BGS Geological Mapping.

5.2 Groundwater

No groundwater was encountered within the exploratory holes during drilling/excavation. Additionally, at the time of writing 2No. out of 9No. environmental monitoring visits had been completed all of the exploratory holes monitored during these 2No. visits had remained dry.

5.3 Environmental Observations

Headspace tests were carried out on all samples recovered from the exploratory holes conducted to help screen for potential contamination from Volatile Organic Compounds (VOC's), which involved the use of a photo ionisation detector (PID) to detect any vapour release. Concentration of VOC's were identified up to 40.8ppm (WS02 at 3.50m bgl). Slightly elevated concentrations of VOC's were identified within the majority of the exploratory holes notably including WS01, WS02, WS03 and WS05. In addition hydrocarbon odour was observed during the conduct of WS01 associated with the bituminous surfacing (WS01 ground level up to 0.15m bgl). Potential cement bonded asbestos fragments were identified within TP01 (0.2m bgl) and TP03 (0.5m bgl).

6.0 Chemical Laboratory Results

6.1 General

The results of the soil analyses have been compared against the available published guidance for residential end use with homegrown produce given the proposed end use for the site. These guidance values have been adopted from the LQM/CIEH (Land Quality Management / Chartered Institution of Environmental Health) Suitable Use Levels (S4ULs) for Human Health Risk Assessment 2015. Where concentrations for contaminants are not provided within the LQM/CIEH S4ULs the Category 4 Screening levels (CL:AIRE) have been used for indicative purposes. Results for the soil analysis detailed in Section 4.2 are presented in Appendix E of this report.

It should be noted that the various available S4UL values that have been used in the current absence of any recognized SGV's must be used with some caution, as they have not been formally reviewed or endorsed by Government or the Environment or Health Protection Agencies.

A total of 15no. samples of Made Ground, 10no. samples of natural material and 1no. sample of tarmac were scheduled for laboratory analysis for a range for a range of determinands including metals, speciated PAHs, phenols, TPH, VOC's, pH, asbestos presence / absence and WAC.

6.2 Soil Analysis Discussion

Made Ground

Asbestos

All samples of Made Ground analysed were tested for the presence of asbestos fibres. None of the Made Ground samples recorded the presence of loose asbestos fibres, however, cement bonded asbestos sheeting fragments were identified within the Made Ground at TP01 (0.2m bgl) and TP03 (0.5m bgl). The fragments of asbestos sheeting were identified to contain chrysotile fibres although the Made Ground at these locations was not identified to contain loose asbestos fibres.

Metals

Toxic metals are those considered to be potentially harmful / toxic to human health at elevated concentrations. 3No. samples of the Made Ground recorded elevated concentrations of lead up to 797 mg/kg (TP02 at 0.3m bgl). Elevated lead concentrations were also identified at TP03 (394 mg/kg) and WS05 (326 mg/kg) at 0.8m bgl and 0.5m bgl respectively. The concentrations of lead identified within the Made Ground exceeded the guidance value of 190 mg/kg.

Phytotoxic metals are those considered to be harmful to the growth of plant life (including copper, nickel, zinc and water-soluble boron) but are not considered to be harmful to human health in concentrations

more commonly encountered. No samples of Made Ground recorded exceedances of the published guidance values.

Total Petroleum Hydrocarbons (TPH)

Concentrations of TPH within the Made Ground samples analysed were recorded between the laboratory detection limit of <6 mg/kg (WS01 at 0.50m bgl, WS02 at 0.05m bgl, WS03 at 0.05m and 1.00m bgl, and WS05 at 1.00m bgl) and 690 mg/kg (TP02 at 0.30m bgl). Basic speciation indicated that the majority of this TPH related to carbon fraction C21-C40 (435 mg/kg) and did not exceed the guidance value for this carbon range both in relation to aliphatic and aromatic hydrocarbons.

Polycyclic Aromatic Hydrocarbons (PAH's)

Concentrations of total PAHs were typically low, recorded between <1.6 mg/kg (WS01 at 0.50m bgl, WS02 at 0.05m bgl and WS03 at 0.05m bgl) and 6.1 mg/kg (TP03 at 0.80m bgl). Correspondingly concentrations of individual PAH constituents were not elevated. Concentrations of Benzo(a)pyrene and dibenz(a,h)anthracene were recorded up to 0.58 mg/kg and 0.13 mg/kg respectively which do not exceed the adopted guidance values for these contaminants. However, total PAHs were recorded to be elevated within TP02 where a concentration of 263 mg/kg Total PAH was identified at 0.30m bgl. Speciated PAH analysis of this sample indicated elevated concentrations of individual compounds including Benzo(a)anthracene (24.20 mg/kg), Benzo(a)pyrene (17.60 mg/kg) and Dibenz(a,h)anthracene (1.83 mg/kg) which exceed guidance values of 13 mg/kg (Benzo(a)anthracene, 3.0 mg/kg (Benzo(a)pyrene and 0.3 mg/kg (Dibenz(a,h)anthracene) respectively.

Other Determinands

The Made Ground samples were also analysed for other determinands including: phenols, sulphide, thiocyanate, total cyanide and free cyanide. None of the samples analysed recorded elevated concentrations of these contaminants.

Bituminous Surfacing

Total Petroleum Hydrocarbons (TPH)

Concentrations of TPH were recorded up to 2,780 mg/kg within the bituminous surfacing analysed from WS01 at 0.05m bgl. Basic speciation indicated that the majority of the hydrocarbons related carbon fractions C16-C21 (1,282 mg/kg) and C21-C40 (1,202 mg/kg). Further more detailed speciated hydrocarbon analysis would be required to clarify risks given the concentration of carbon fraction C16-C21 recorded potentially exceeds the guidance value in relation to aromatic hydrocarbons

Polycyclic Aromatic Hydrocarbons (PAH's)

Concentrations of Total PAH were recorded up to 1,150 mg/kg within the bituminous surfacing at WS01 at 0.05m bgl. Correspondingly, elevated concentrations of individual PAH constituents were elevated including

Benzo(a)pyrene (48.20 mg/kg) and Dibenz(a,h)anthracene (3.54 mg/kg) which exceeded the adopted guidance values of 3.0 mg/kg (Benzo(a)pyrene) and 0.3 mg/kg (Dibenz(a,h)anthracene) respectively.

Natural Ground

Asbestos

All samples of Natural material analysed were tested for the presence of asbestos and none of the samples recorded positive presence of asbestos fibres.

Metals

Toxic metals are those considered to be potentially harmful / toxic to human health at elevated concentrations. Toxic metals were not identified to be elevated with samples of natural material analysed.

Phytotoxic metals are those considered to be harmful to the growth of plant life (including copper, nickel, zinc and water-soluble boron) but are not considered to be harmful to human health in concentrations more commonly encountered. Phytotoxic metals were not identified to be elevated with samples of natural material analysed.

Total Petroleum Hydrocarbons (TPH)

Concentrations of TPH were recorded below the laboratory detection limit (<6 mg/kg) within the samples of natural material that were analysed and therefore not elevated

Polycyclic Aromatic Hydrocarbons (PAH's)

Concentrations of total PAH's were only recorded up to 2.9 mg/kg (WS01 at 1.00m bgl). Correspondingly no elevated individual PAH constituents here recorded in exceedance of the adopted guidance values.

Volatile Organic Compounds (VOC's)

1No. sample of the natural material was analysed for VOC's. This sample was below the laboratory detection limit and therefore were not considered to be elevated.

Other Determinands

The samples were also analysed for other determinands including: phenols, sulphide, thiocyanate, total cyanide and free cyanide. None of the samples recorded elevated concentrations of these contaminants.

6.3 Groundwater Analysis Discussion

No groundwater was encountered within any of the exploratory holes during drilling or during monitoring visits at the time of writing (see Appendix F Groundwater Monitoring Data).

6.4 Ground Gas Monitoring

As part of this preliminary assessment SEC were instructed to conduct 9no. bi-weekly environmental ground gas monitoring visits which at the time of writing were not completed and remained ongoing. A Ground Gas Risk Assessment Addendum will therefore be produced under a separate cover to supplement the findings of this report in relation to ground gas risk.

6.5 Waste Soil Classification Assessment

Specialist waste classification software (HazWasteTM) has been used to help determine waste classification code(s) for the material encountered on site. Details of the waste classification for the Made Ground and Natural material present on site are provided in Appendix G – Waste Classification Assessment. However, a brief summary of the assessment has been provided below:

The HazWasteTM Waste Classification Assessment classified different samples of Made Ground under two separate waste codes 17 05 04 (Non-Hazardous) and 17 03 01* (Hazardous) subject to the concentrations of given contaminants within the Made Ground. Natural material across the site was classified as Non-Hazardous under waste code 17 05 04. The Waste Classification Assessment however only distinguishes between Non-Hazardous and Hazardous Waste only.

The waste arisings generated during the proposed development work should be disposed of appropriately to suitably licensed waste disposal facilities and the following waste disposal information is provided for your consideration;

Table 1: Waste Classification Summary

Material Type for Reference	Depth Range (bgl)	Landfill Acceptance (WAC Classification)	Waste Classification	Waste Code
Bituminous Surfacing	0.00--0.15m	Hazardous	Hazardous	17 03 01
Made Ground impacted with lead and PAHs	0.00--1.35m	Non-Hazardous (due to elevated lead and / or asbestos)	Non-Hazardous	17 05 04
Made Ground impacted with Asbestos Fragments (assuming asbestos containing material fragments are removed prior to disposal from site)	0.45 - ~1.25m	Non-Hazardous (due to elevated metals and / or asbestos)	Non-Hazardous	17 05 04
Cement Bonded Asbestos Fragments	-	Hazardous	-	17 06 05

General Made Ground	0.00-0.55m	Non-Hazardous	Non-Hazardous	17 05 04
Natural Material	0.25~4.45m	Non-Hazardous	Non-Hazardous	17 05 04

Given the variable waste streams and associated disposal classifications with regard to disposal to landfill, segregation of waste arisings is recommended to comply with Environment Agency WM3 guidelines and to also help achieve cost-effective waste disposal from site. All waste segregation work on site should be supported by a Watching Brief by an Environmental Consultant.

All waste removed from site should be disposed of at suitably licensed facilities in accordance with EA WM3 guidance and all waste disposal tickets should be retained for inclusion within a future validation report.

7.0 Updated Conceptual Site Model and Qualitative Risk Assessment

7.1 Conceptual Model

In accordance with BS 10175 an updated conceptual site model has been developed for the site, based on the potential sources, pathways and receptors identified from the available data and based upon the proposed development for the site and taking into account on-site observations made by SEC at the time of this assessment (see Appendix A Figure 5 for Updated Conceptual Site Model).

7.2 Sources of Potential Contamination / Hazards

Based on the currently available information from the site investigation the following potential on-site sources of contamination have been identified;

- Potential coal tar rich tarmac surfacing associated with the existing site access road identified up to 0.15m bgl (WS01) and identified to exhibit elevated concentrations of PAHs including benzo(a)pyrene up to 48.8mg/kg and TPH up to 2780mg/kg;
- Made Ground identified across the site up to 1.35m bgl (WS05) generally comprising gravelly Sand / sandy Gravel with varying frequencies of subangular to subrounded flints, brick and concrete inclusions and exhibiting fragments of cement bonded asbestos sheeting (TP01 and TP03) and elevated concentrations of lead (up to 797mg/kg TP02 at 0.3m bgl) and PAHs including benzo(a)pyrene (up to 17.6mg/kg TP02 at 0.3m bgl);
- Former site use as a garage, with an above ground tank and as part of a barracks; and
- Potentially elevated concentrations of ground gases (to be considered separately within a follow on Ground Gas Risk Assessment Addendum)

Potential off-site sources of contamination identified included;

- An infilled Chalk Pit identified ~167m northeast of the site between 1954 - 1981;
- Milton Barracks identified ~140m east of the site between 1947 – 1992;
- A Tank identified ~76m northeast of the site between 1954 – 1993;
- Gravesend Barracks identified ~23m northeast of the site between 1909 – 1981;
- A Tank identified ~49m southeast of the site between 1954 – 1978; and
- An Electrical Substation ~25m north of the site since 1951.

7.3 Potential Receptors for Contamination / Hazards

The following potential receptors have been identified as requiring appraisal in the context of potential pollutant linkages:

- Proposed building (building fabric and landscaped / garden areas);
- Future site users;
- Groundworkers;
- Neighbouring sites;
- Controlled waters (Secondary A Aquifer over Principal Aquifer)
- Ecological systems

7.4 Potential Pathways

The following potential pathways have been considered in relation to the sources and receptors identified above:

- Inhalation;
- Ingestion;
- Direct contact;
- Dust migration;
- Permeable strata
- Percolation, infiltration and leaching;
- Groundwater and surface water migration; and
- Explosive Event.

7.5 Updated Qualitative Risk Assessment

An updated Qualitative Risk Assessment has been completed based on the findings of the SEC investigation and has been produced using all of the currently available information. It is based upon a source-pathway-receptor linkage model and is presented as Table 1 below. The terms adopted for severity of impact are – severe, medium, mild and minor, for probability of an exposure occurring are – high likelihood, likely, low likelihood and unlikely and for the risk to the receptor are very high, high, moderate, low and very low risk. Full definitions are presented in Appendix H.

Should any further investigations be carried out then the additional information obtained should be used to refine the conceptual site model.

Table 2: Qualitative Risk Assessment

Sources of Potential Contamination	Receptor	Pathway	Severity of Impact	Probability of Exposure	Risk	Recommended Action (to clarify level of risk and/or assess suitable mitigation measures or to mitigate the risk)
On Site Sources: Potential coal tar rich Bituminous surfacing associated with the existing site access road identified up to 0.15m bgl (WS01) and identified to exhibit elevated concentrations of PAHs including benzo(a)pyrene up to 48.8mg/kg and TPH up to 2780mg/kg.	The proposed development (building fabric and soft landscaped areas) Future site users Construction / Maintenance workers Neighbouring sites Controlled waters (Secondary A-Aquifer over Principal Aquifer) Ecological Systems	Inhalation Ingestion Direct contact Dust migration Permeable strata Percolation, infiltration and leaching Groundwater and surface water migration	Mild	High Likelihood	Moderate	The existing tarmac surfacing associated with the former site access driveway which tracks through the site in an east to west orientation will be removed as part of the proposed redevelopment. Chemical analysis of the tarmac indicates that it is potentially coal tar rich given the elevated concentrations of PAHs and hydrocarbons. For waste disposal purposes, it is recommended that the existing tarmac surfacing be disposed of from site to suitably licensed waste management facilities as hazardous waste under waste code 17 03 01. All waste disposal documentation should be retained for inclusion within a future Validation Report. To help facilitate appropriate waste disposal from site, the tarmac surfacing should be carefully excavated and segregated from the underlying material under the supervision of an Environmental Consultant. The removal of the tarmac material will mitigate potential risks to future site users however in areas of proposed soft landscaping a clean cover system should be recommended to a minimum thickness of 475mm. The cover system should comprise the provision of a high visibility marker layer (permeable geotextile or similar) overlain by imported certified "clean" topsoil to the required minimum thickness. Prior to delivery of any imported topsoil to site, the supplier's chemical batch data should be provided to an Environmental Consultant for review and following provision of the cover system to all landscaped areas it should be validated by an Environmental Consultant. This should include chemical analysis of a representative number of imported cover system validation samples based on

						a minimum frequency of 1 validation sample per garden / landscaped area as a minimum or 1 sample per 50m³ per material source for larger areas. In addition the thickness of cover system should be certified. Potential risks to controlled waters and site neighbours associated with the tarmac are considered to be low given that the PAHs and hydrocarbons were not generally highly elevated in near surface soils across the site and that groundwater is at depth below 4.0m bgl. It is therefore unlikely that these contaminants will infiltrate down to the groundwater from the tarmac. The removal of the tarmac as part of the redevelopment work will also mitigate potential residual future risks. During all intrusive works on site all groundworkers should wear appropriate PPE/RPE, work in well ventilated areas, avoid confined spaces, avoid contact with soil and groundwater, not smoke, adopt high standards of personal hygiene, and operate with due care. In addition, a Discovery Strategy should be implemented on site during the redevelopment work which should include for the immediate reporting of any potential indicators of ground or water contamination e.g. asbestos fragments, ash / clinker or hydrocarbon odours for separate assessment by an Environmental Consultant.
Made Ground identified across the site up to 1.35m bgl (WS05) generally comprising gravelly Sand / sandy Gravel with varying frequencies of subangular to subrounded flints, brick	The proposed development (building fabric and soft landscaped areas) Future site users Construction /	Inhalation Ingestion Direct contact Dust migration Permeable strata	Mild / Medium	High Likelihood	Moderate / High	Based upon the site investigation findings to date the Made Ground appears to be limited to relatively shallow depth up to 1.35m bgl and was relatively homogenous, consisting of gravelly Sand or sandy Gravel (both of which were in some locations noted to be clayey). Contamination was identified which related to the presence of cement asbestos sheeting fragments within TP01 (eastern end of the site) and TP03 (western end of the site), elevated PAHs within

and concrete with inclusions and exhibiting fragments of cement bonded asbestos sheeting (TP01 and TP03) and elevated concentrations of lead (up to 797mg/kg TP02 at 0.3m bgl) and PAHs including benzo(a)pyrene (up to 17.6mg/kg TP02 at 0.3m bgl).	Maintenance workers Neighbouring sites Controlled waters (Secondary A-Aquifer over Principal Aquifer) Ecological Systems	Percolation, infiltration and leaching Groundwater and surface water migration				TP02 (western end of the site) and elevated lead within TP02, TP03 and WS05 (all located to the western end of the site). Based on the currently available data it is recommended that the lead impacted Made Ground identified to the western end of the site and that the apparent asbestos hotspots (to the eastern and western sides of the site) be subject to remedial excavation and removal from site for disposal to appropriately licensed facilities to mitigate potential risks primarily relating to human health associated with future site occupants. Remedial work should not be conducted until a Remedial Method Statement has been approved in advance by the Regulators. However, remedial excavation should be overseen by an Environmental Consultant and certified by soil validation sample analysis from the sides and base of the remedial excavation. Any imported backfill material (e.g. engineered fill / aggregate, subsoil or topsoil) should be validated including the review of supplier batch data prior to import and analysis of validation samples once imported to site, to confirm suitability for use on site in relation to human health. Any remedial work conducted on site as part of the proposed development should be certified and documented within a Validation Report by an Environmental Consultant. Whilst further intrusive investigation could be conducted locally to TP01 and TP03 to better delineate the extent of Made Ground impacted by cement bonded asbestos sheeting it is considered likely to be more cost effective to undertake an asbestos picking exercise as part of the Watching Brief (by Category A & B Asbestos Awareness trained operatives) during the remediation of the impacted Made Ground. To help mitigate potential Health and Safety risks appropriate PPE / RPE should be worn by operatives during the remedial excavation and asbestos picking, including disposable suits and RPE. Given that the Made Ground has not been identified to be impacted by
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						loose asbestos fibres reassurance asbestos air monitoring by an independent laboratory is not necessarily required although it may be prudent as a precautionary measure. All waste arisings should be disposed of from site appropriately in accordance with EA WM3 guidance. The impacted Made Ground should be disposed of as Non-Hazardous waste under waste code 17 05 04 although arisings should be segregated based on waste stream types. All waste disposal tickets should be retained. Fragments of picked cement bonded asbestos sheeting should be removed separately from soils under waste code 17 06 05. The recommended cover system discussed above will help to mitigate potential risks in areas of proposed gardens / soft landscaping. Potential risks to controlled waters and site neighbours are considered likely to be low given that the lead and PAHs are unlikely to migrate down from the shallow Made Ground to the groundwater at depth greater than 4m bgl in sufficiently elevated concentrations that would pose a risk to the groundwater and site neighbours. Potential future risks would be mitigated by the recommended remedial work to remove the impacted Made Ground from site. During all intrusive works on site all groundworkers should wear appropriate PPE/RPE, work in well ventilated areas, avoid confined spaces, avoid contact with soil and groundwater, not smoke, adopt high standards of personal hygiene, and operate with due care. In addition, a Discovery Strategy should be implemented on site during the redevelopment work which should include for the immediate reporting of any potential indicators of ground or water contamination e.g. asbestos fragments, ash / clinker or hydrocarbon odours for separate assessment by an Environmental
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						Consultant. Potential risks to water supply pipework should be mitigated by the inclusion of chemically resistant water supply pipe within the design of the proposed development. This requirement should be confirmed with the relevant water supplier.
On-site sources: Former site use as a garage, with an above ground tank and as part of a barracks	The proposed development (building fabric and soft landscaped areas) Future site users Construction / Maintenance workers Neighbouring sites Controlled waters (Secondary A-Aquifer) Ecological Systems	Inhalation Ingestion Direct contact Dust migration Permeable strata Percolation, infiltration and leaching Groundwater and surface water migration	Medium	Likely	Moderate	Based upon the available site investigation data the former site uses do not appear to have caused widespread contamination across the site. However, given restricted access at the time of the site investigation given that site clearance had not been completed, it is recommended that a watching brief be maintained by an Environmental Consultant during the removal of the hardstanding across the site and in particular the ground slab of the former buildings. Confirmatory validation samples should be recovered for analysis to confirm an absence of impact associated with contaminants of concern including metals, PAHs, hydrocarbons and asbestos. In relation to the former tank that previously occupied the western area of site, it is understood from the Client that this tank related to a water supply tank rather than a fuel storage tank. Findings within exploratory holes WS03 and WS05 appear to support this given the apparent absence of any evidence of hydrocarbon impact which would be expected associated with leaks and spills from the tank had it indeed been a fuel storage tank. In areas of proposed soft landscaping a clean cover system should be provided to a minimum thickness of 475mm. The cover system should comprise the provision of a high visibility marker layer (permeable geotextile or similar) overlain by imported certified "clean" topsoil to the required minimum thickness. Prior to delivery of any imported topsoil to site, the supplier's chemical batch data should be provided to an Environmental Consultant for review and

						following provision of the cover system to landscaped areas it should be validated by an Environmental Consultant. This should include chemical analysis of a representative number of imported cover system validation samples based on a minimum frequency of 1 validation sample per garden / landscaped area as a minimum or 1 sample per 50m³ per material source for larger areas. In addition the thickness of cover system should be certified. All waste associated with the former site uses should be cleared and removed from the site to suitably licensed waste disposal facilities prior to the proposed demolition and site clearance work. All waste disposal tickets should be retained. During all intrusive works on site all groundworkers should wear appropriate PPE/RPE, work in well ventilated areas, avoid confined spaces, avoid contact with soil and groundwater, not smoke, adopt high standards of personal hygiene, and operate with due care. In addition, a Discovery Strategy should be implemented on site during the redevelopment work which should include for the immediate reporting of any potential indicators of ground or water contamination e.g. asbestos fragments, ash / clinker or hydrocarbon odours for separate assessment by an Environmental Consultant.
On Site Sources: Potentially elevated concentrations of ground gases	The proposed development (building fabric and soft landscaped areas) Future site users Construction / Maintenance	Inhalation Ingestion Direct contact Permeable strata	Medium	Likely	Moderate	The ground gas monitoring is currently ongoing at the time of writing this report and as such a Ground Gas Risk Assessment Addendum will be produced separately following the completion of monitoring. It is recommended therefore that the existing ground gas monitoring installations be afforded protection until the Ground Gas Risk Assessment Addendum has been approved by the Regulators. Lost or damaged monitoring boreholes will need to be replaced at additional cost.

	workers Neighbouring sites Controlled waters (Secondary A-Aquifer) Ecological Systems					
Off Site Source: An infilled Chalk Pit identified ~167m northeast of the site between 1954 - 1981; Milton Barracks identified ~140m east of the site between 1947 - 1992; A Tank identified ~76m northeast of the site between 1954 - 1993; Gravesend Barracks identified ~23m northeast of the site between 1909 - 1981; a Tank identified ~49m southeast of the site between 1954 - 1978; and an Electrical Substation ~25m north of the site since 1951.	The proposed development (building fabric and soft landscaped areas) Future site users Construction / Maintenance workers Neighbouring sites Controlled waters (Secondary A-Aquifer) Ecological Systems	Inhalation Ingestion Direct contact Permeable strata Percolation, infiltration and leaching Groundwater and surface water migration	Mild	Low likelihood	Low	Based upon the site investigation findings to date, the offsite sources do not appear to have caused impact to the site. However, it is noted that environmental monitoring visits are ongoing and so this is subject to confirmation within the Ground Gas Risk Assessment Addendum which is to be produced following the completion of the remaining ground gas monitoring visits.

8.0 Conclusions and Recommendations

A review of the Site Investigation data has been undertaken and a qualitative risk assessment has been conducted based on our understanding from the Client that the proposed development is the construction of 1No. block of flat and 2No. detached residential dwellings with associated soft landscaping / gardens.

Should the existing or proposed usage change or additional information be obtained then a re-assessment of the potential risks associated with the site will be required.

The following recommendations have been made based on the findings of this assessment and given consideration of the proposed residential end use:

- That the remaining ground gas monitoring be completed in order to inform the Ground Gas Risk Assessment Addendum to supplement the findings of this assessment and to inform the requirement for any protective measures within the building design;
- That prior to the proposed development, all general rubbish and drums of fuel should be appropriately removed from site and disposed of at suitably licensed facilities (all waste disposal documents to be retained);
- That the existing potentially coal tar rich tarmac surfacing be disposed of from site to suitably licensed waste management facilities as hazardous waste under waste code 17 03 01. All waste disposal documentation should be retained for inclusion within a future Validation Report. To help facilitate appropriate waste disposal from site, the tarmac surfacing should be carefully excavated and segregated from the underlying material under the supervision of an Environmental Consultant;
- That a watching brief be maintained by an Environmental Consultant during the removal of the hardstanding across the site and in particular the ground slab of the former buildings. Confirmatory validation samples should be recovered for analysis to confirm an absence of impact associated with contaminants of concern including metals, PAHs, hydrocarbons and asbestos;
- That remedial excavation be conducted to remove the lead and asbestos impacted Made Ground identified on site for appropriate disposal to suitably licensed facilities. Remedial excavation should be overseen by an Environmental Consultant and be certified by soil validation sample analysis from the sides and base of the remedial excavation. Any imported backfill material (e.g. engineered fill / aggregate, subsoil or topsoil) should be chemically validated in relation to suitability for use on site as part of the proposed development, including the review of the supplier's chemical batch data prior to import and chemical analysis of validation samples following importation to site;
- That an asbestos picking exercise be conducted during the excavation of asbestos impacted material locally to TP01 and TP03, to remove fragments of cement bonded asbestos sheeting for separate disposal. Asbestos picking should be conducted by Category A & B Asbestos Awareness trained operatives and to

help mitigate potential Health and Safety risks appropriate PPE / RPE should be worn by operatives during the remedial excavation and asbestos picking, including disposable suits and RPE;

- That all waste arisings should be disposed of from site appropriately in accordance with EA WM3 guidance. The impacted Made Ground should be disposed of as Non-Hazardous waste under waste code 17 05 04 and picked asbestos containing material fragments as Hazardous waste under waste code 17 06 05. All arisings should be segregated based on waste stream types and according to waste classification. All waste disposal tickets should be retained;
- That a “clean” cover system be provided to a minimum thickness of 475mm across landscaped / garden areas. The cover system should comprise the provision of a high visibility marker layer (permeable geotextile or similar) overlain by imported certified “clean” topsoil to the required minimum thickness. Subject to existing and proposed site levels it may be necessary to remove some existing soils to facilitate the cover system. Prior to delivery of any imported topsoil to site, the supplier’s chemical batch data should be provided to an Environmental Consultant for review and following provision of the cover system to landscaped areas it should be validated by an Environmental Consultant. This should include chemical analysis of a representative number of imported cover system validation samples based on a minimum frequency of 1 validation sample per garden / landscaped area as a minimum or 1 sample per 50m³ per material source for larger areas. In addition the thickness of cover system should be certified;
- That the water supply pipework included within the design of the proposed development should be chemically resistant barrier pipe. Alternatively the water supplier should be contacted to confirm chemically resistant barrier pipe is not required;
- That groundworkers should wear appropriate PPE/RPE, work in well ventilated areas, avoid confined spaces, avoid contact with soil and groundwater, not smoke, adopt high standards of personal hygiene, and operate with due care;
- That a Discovery Strategy should be implemented on site during the redevelopment work which should include for the immediate reporting of any potential indicators of ground or water contamination e.g. asbestos fragments, ash / clinker or hydrocarbon odours for separate assessment by an Environmental Consultant;
- That prior to the conduct of any remedial work, a Remedial Method Statement should be approved by the Regulators; and
- That any remedial work conducted on site as part of the proposed development should be certified and documented within a Validation Report produced by an Environmental Consultant.

General Recommendations

In addition to the above recommendations, any discharges from the site should be appropriately consented by the Environment Agency and consideration of archaeological constraints in relation to planning is necessary prior to any demolition and intrusive groundwork. Also, prior to the demolition of the existing buildings, an appropriate Pre-Demolition / Refurbishment Asbestos Survey should be undertaken and any

identified asbestos containing material should be removed to begin compliance with the Control of Asbestos Regulations 2012, help mitigate risks to workers and prevent potential cross contamination into underlying soils.

The findings of this assessment are based upon SEC's current understanding of the site. Should circumstances change then the Risk Assessment should be revisited by an Environmental Consultant. The recommendations made above are subject to regulatory approval.

An ecological survey, an asbestos survey, and a flood risk assessment of the site were beyond the scope of this report.

9.0 General Limitations and Exceptions

1. The advice given in this report with respect to contaminated land / pollution is based on the guidelines available at the time of writing.
2. The Client is advised that the conditions observed on site by SEC at the time of the investigation or assessment are subject to change. Certain indicators of the presence of hazardous substances may have been latent at the time of the most recent site reconnaissance or investigation and they may subsequently have become observable.
3. Comments made relating to land gas or groundwater conditions are based on observations made at the time of an investigation unless otherwise stated. However, land gas or groundwater conditions may vary as a result of seasonal or other effects.
4. Ground contamination often exists as small discrete areas of contamination and there can be no certainty that any or all such areas have been located, sampled and / or identified.
5. Whilst commonly regarded as one of the most reliable drilling techniques, cable percussive drilling may result in a certain amount of soil mixing.
6. This assessment may be subject to amendment in light of additional information becoming available.
7. The findings and opinions conveyed in this report are based on information obtained from a variety of sources, including that from 1) previous site investigations and 2) chemical testing laboratories, and which SEC has assumed are correct. Nevertheless, SEC cannot and does not guarantee the authenticity or reliability of the information it has relied upon. SEC can accept no responsibility for inaccuracies within the data supplied by other parties.
8. This report is written in the context of an agreed scope of work between SEC and the Client and should not be used in a different context. In light of additional information becoming available, improved practices and changes in legislation amendment or re-interpretation of the assessment or report in whole or part may be necessary after its original submission.
9. This report is provided for sole use by the Client and is confidential to them. No responsibility whatsoever for the contents of the report will be accepted to anyone other than the Client.
10. SEC believes that providing information about limitations is essential to help the Client identify and thereby manage risks.
11. The copyright of written materials supplied shall remain the property of SEC but with a royalty free perpetual licence, granted to the Client on payment in full of any outstanding monies.
12. SEC does not provide legal advice and the advice of the Clients legal advisors may also be required.
13. The use of data generated by this site investigation for the design of foundations or geo-technical assessment was outside the scope of this report.
14. An ecological, topographical or asbestos survey was outside of the scope of this report.

15. SEC notes that all recommendations made within our report are subject to regulatory approval and should be agreed with them prior to the conduct of any further site investigation, remediation or development works.
16. This report represents a stage in an iterative process of investigation and assessment and as such it is possible that further work may be recommended.
17. The report is issued on the condition that SEC will under no circumstances be liable for any loss arising directly or indirectly from ground conditions between the boreholes or trial pits which have not been shown by the borehole, trial pits or other tests carried out during the investigation.
18. In addition, SEC will not be liable for any loss whatsoever arising directly or indirectly from any opinion given on the possible configuration of strata both between the borehole and/or trial pit positions and/or below the maximum depth of the investigation. Such opinions, where given, are for guidance only.
19. No allowance has been made in this report for testing which may be required for waste categorisation prior to the removal of any material from site for disposal.
20. No person other than the client to whom this report is addressed, shall rely on it in any respect and no duty of care shall be owed to any such third party.
21. That this investigation has relied on information from a discrete number of exploratory hole locations and allowances should be made for the variation in ground conditions between these locations and within the site boundary.
22. The opinions expressed in this report are based on the ground conditions revealed by the site works, together with an assessment of the site and of laboratory test results. Whilst opinions may be expressed relating to sub-soil conditions in parts of the site not investigated, for example between or beyond borehole positions, these are only for guidance only and no liability can be accepted for their accuracy.
23. It should be noted that the Made Ground depth recorded above is that encountered within the exploratory holes undertaken during the phase of work to which this report pertains. Owing to the variable nature and unknown deposition criteria of Made Ground it is possible that deeper or more extensive areas of Made Ground may exist at this site which has not been revealed by the current work. SEC can only comment on the findings within the exploratory holes conducted and cannot be held liable for variation of ground conditions between exploratory hole.
24. The above should take into account any LPA requirements with regard to the sites archaeological sensitivity (e.g. Watching Brief on excavation works)

Appendix A

Figures

Gravesham Borough Council



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This map is not to be relied upon for accuracy and is for identification purposes only

SITE: Armoury Drive, Gravesend

SCALE: NTS

JOB NO: 4551

FIGURE TITLE: Site Location Plan

REV: 01

FIGURE NO: 01

 SEVENOAKS
ENVIRONMENTAL
CONSULTANCY



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This map is not to be relied upon for accuracy and is for identification purposes only

SITE: Armory Drive, Gravesend

SCALE: NTS

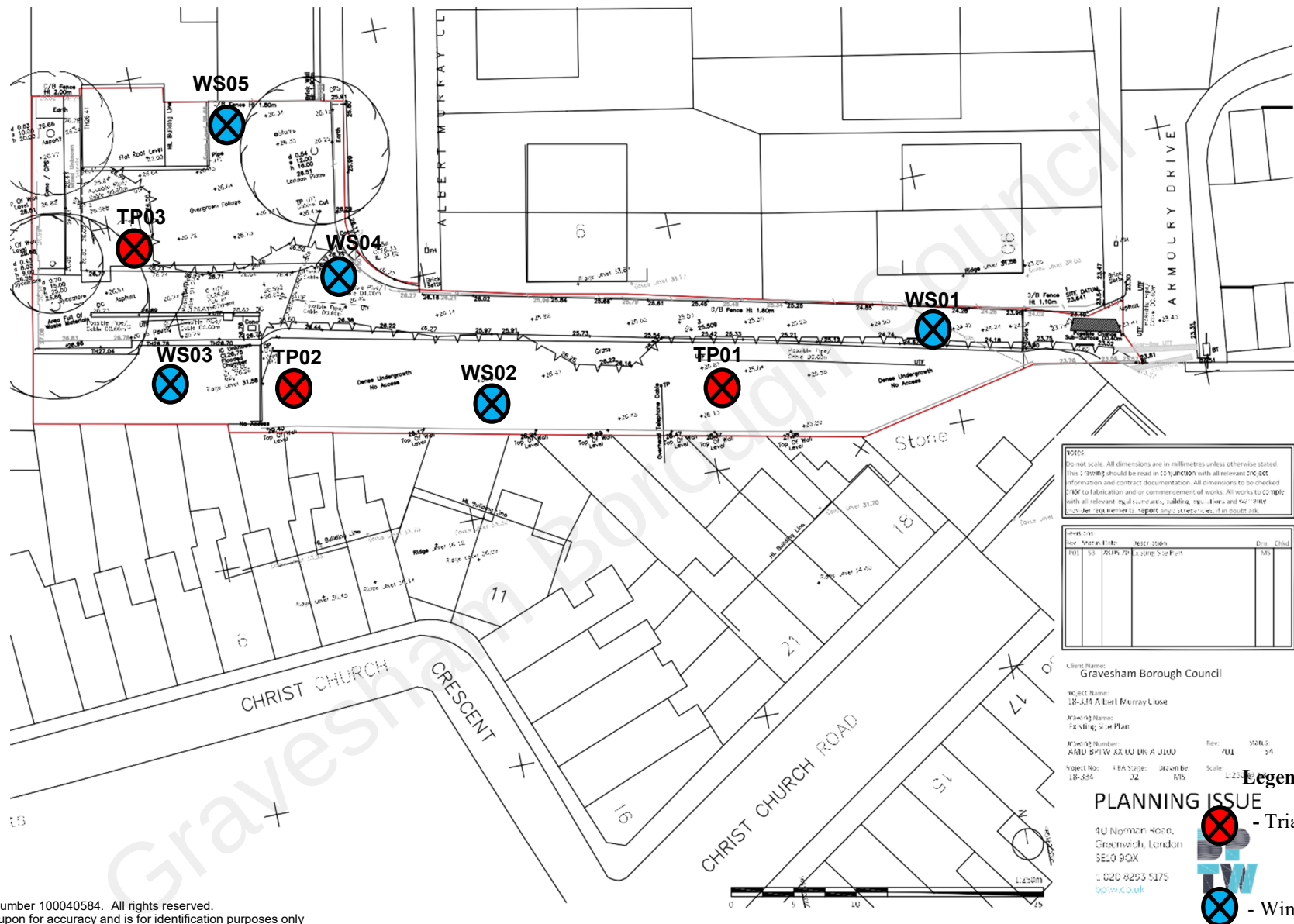
JOB NO: 4551

FIGURE TITLE: Site Location Plan

REV: 01

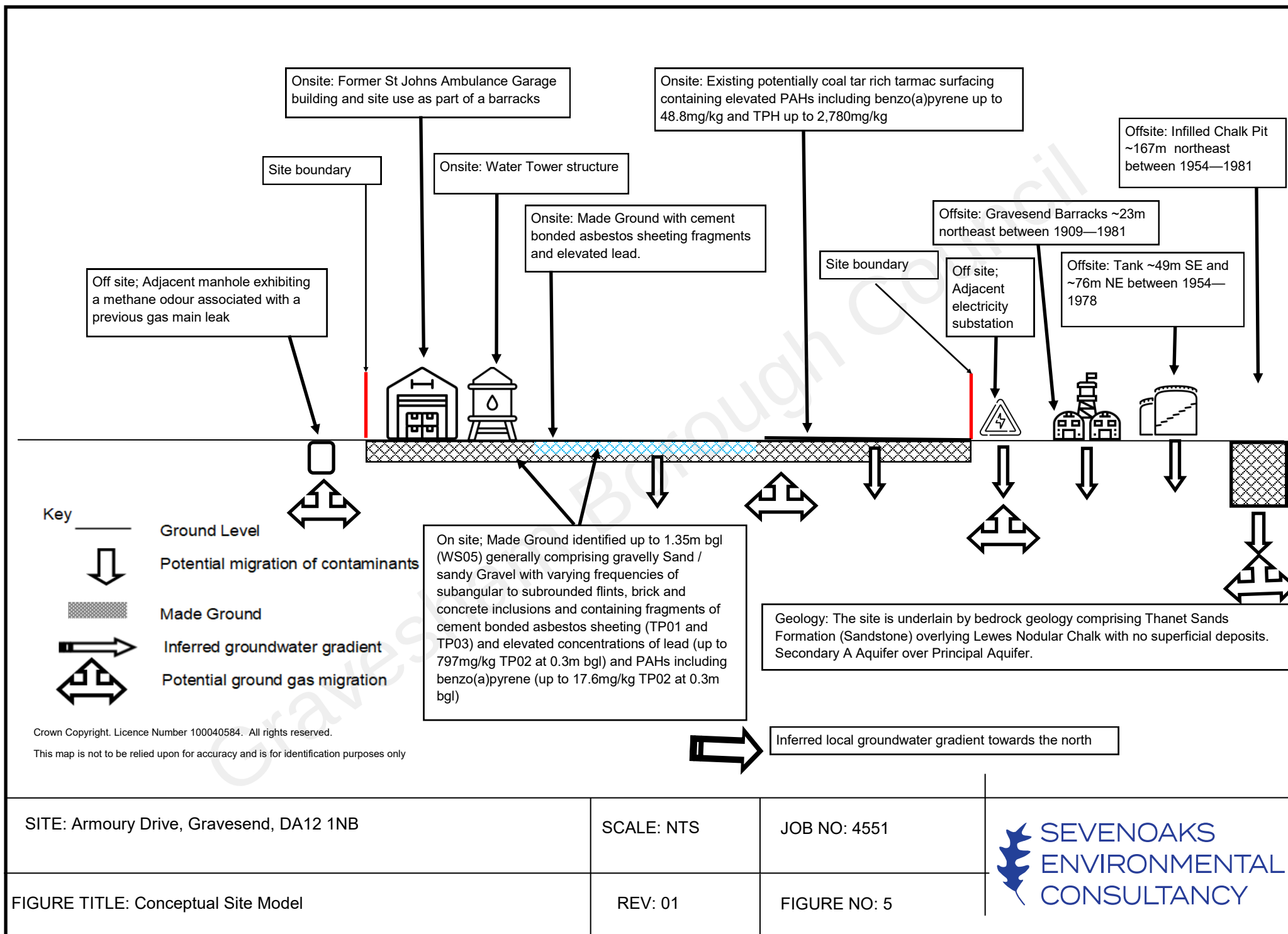
FIGURE NO: 03

**SEVENOAKS
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SITE: Armoury Drive, Gravesend	SCALE: NTS	JOB NO: 4551	 SEVENOAKS ENVIRONMENTAL CONSULTANCY
FIGURE TITLE: Exploratory Hole Location Plan	REV: 01	FIGURE NO: 04	



SITE: Armoury Drive, Gravesend, DA12 1NB

SCALE: NTS

JOB NO: 4551

FIGURE TITLE: Conceptual Site Model

REV: 01

FIGURE NO: 5

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Appendix B

Site Photos

Gravesham Borough Council



Photo 1: Easterly view down site



Photo 2: Showing breaking out WS01 position



Photo 3: Showing down hole of WS01



Photo 4: showing WS02 with UXO engineer



Photo 5: showing hand digging of WS05



Photo 6: showing WS03 being cleared



Photo 7: showing WS01 samples taken



Photo 6: showing TP03 once dug



Photo 9: showing PACM from TP03



Photo 10: showing WS01 once installed



Photo 11: showing WS02 once installed



Photo 12: showing WS03 once installed



Photo 13: showing WS05 once installed



Photo 14: showing WS04 once installed



Photo 15: Showing PACMs within (UN Code 6—Infectious Substance Bin)

Appendix C

Preliminary UXO Risk Assessment

Gravesham Borough Council



SEVENOAKS ENVIRONMENTAL CONSULTANCY

Pre-Desk Study Assessment

Site:	Armoury Drive, Gravesend, Kent
Client:	Sevenoaks Environmental Consultancy
Contact:	Edward Hopkins
Date:	3 rd February 2022
Pre-WWI Military Activity on or Affecting the Site	By 1862 Milton Barracks had been established on the Site. It was initially a temporary camp for troops training at Milton Rifle Range, approximately 2.3km northeast of the Site. It later became a permanent garrison and infantry depot, accommodating units including the 1st Battalion Somerset & Cornwall Light Infantry Regiment.
WWI Military Activity on or Affecting the Site	During WWI Milton Barracks continued to accommodate troops. In 1917 it became an Auxiliary Military Hospital Unit.
WWI Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: • Military barracks and training areas. • Docks, wharves, and warehouses along the River Thames. • Transport infrastructure and public utilities. • Industries important to the war effort, including chemical and metal works. • Anti-Aircraft (AA) guns.
WWI Bombing	None identified on the Site.
Interwar Military Activity on or Affecting the Site	Post-WWII Milton Barracks remained operational.
WWII Military Activity on or Affecting the Site	From 1939 Milton Barracks became a Training and Holding Depot. In 1940 the Barracks was expanded, with additional Nissen Huts established to the east of the existing buildings.
WWII Strategic Targets (within 5km of Site)	The following strategic targets were located in the vicinity of the Site: • Military barracks, camps, and training areas. • Docks, wharves, and warehouses along the River Thames. • Transport infrastructure and public utilities. • Industries important to the war effort, including chemical and metal works. • Royal Air Force (RAF) Gravesend. • AA and anti-invasion defences.
WWII Bombing Decoys (within 5km of Site)	1No. located approximately 3.5km northeast of the Site.
WWII Bombing	During WWII the Site was located in the Municipal Borough (MB) of Gravesend, which officially recorded 286No. High Explosive (HE) bombs with a bombing density of 71.3 bombs per 405 hectares (ha). Readily available records have been found to indicate that several HE bombs fell in close proximity to the Site.

Post-WWII Military Activity on or Affecting the Site	Between 1945 and 1957 Milton Barracks was handed to the 30th Reinforcement Holding Unit. In the latter half of the 20th century the Barracks was closed and the majority of the former buildings redeveloped.
Recommendation	It is recommended that a detailed desk study is commissioned to assess, and potentially zone, the Unexploded Ordnance (UXO) hazard level on the Site.
Further information	For information about Zetica's detailed UXO desk studies and other UXO services, please visit our website: www.zeticauxo.com. Details and downloadable resources covering the most common sources of UXO hazard affecting sites in the UK can be found here. If you have any further queries, please don't hesitate to get in contact with us at uxo@zetica.com or 01993 886 682.
This summary is based on a cursory review of readily available records. Caution is advised if you plan to action work based on this summary. It should be noted that where a potentially significant source of UXO hazard has been identified on the Site, the requirement for a detailed desk study and risk assessment has been confirmed and no further research will be undertaken at this stage. It is possible that further in-depth research as part of a detailed UXO desk study and risk assessment may identify other potential sources of UXO hazard on the Site.	

Appendix D

Exploratory Hole Records

Gravesham Borough Council

WINDOW SAMPLE LOG

Project Combined Site Investigation - Former St Johns Ambulance HQ, Armoury Drive, DA12 1NB				Window Sample No WS01
Job No 4551	Date 25-02-22	Ground Level (m)	Co-Ordinates ()	
Contractor Sevenoaks Environmental Consultancy Ltd				Sheet 1 of 1

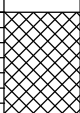
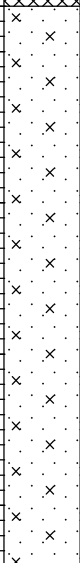
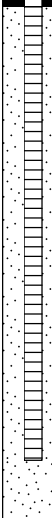
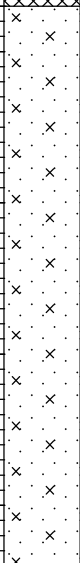
SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
0.05	D	PID: 0.0ppm				0.15	MADE GROUND: Bituminous surfacing with hydrocarbon smell noted throughout.		
0.50	D	PID: 0.4ppm				(0.50) 0.65	MADE GROUND: Soft dark orange mottled black slightly sandy Clay with rare gravels. Gravels are fine to medium sub-rounded to sub-angular bituminous surfacing and tile fragments.		
1.00	D	PID: 0.4ppm					Medium dense orange mottled yellow slightly clayey Sand. Sand is fine.		
1.00-1.45	SPTN	= 11 blows				(1.45)			
1.50	D	PID: 4.1ppm							
2.00	D	PID: 4.1ppm				2.10			
2.00-2.45	SPTN	= 10 blows					Loose to medium dense grey mottled orange slightly gravelly slightly silty fine SAND. Gravel is fine subrounded flint fragments.		
2.50	D	PID: 18.1ppm				(1.35)			
3.00	D	PID: 18.9ppm				3.45			
3.00-3.45	SPTN	= 14 blows					Medium dense grey mottled orange slightly clayey SAND, with rare medium sub-rounded flint gravel.		
3.50	D	PID: 5.9ppm				(1.00)			
4.00	D	PID: 11.5ppm				4.45			
4.00-4.45	SPTN	= 16 blows							

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											No groundwater encountered.
All dimensions in metres Scale 1:50			Client The Longley Group			Method/ Plant Used CDS Rig			Logged By EH		

WINDOW SAMPLE LOG 4551 ARMOURY DRIVE GPJ AGS3 ALL GDT 5/4/22

WINDOW SAMPLE LOG

Project Combined Site Investigation - Former St Johns Ambulance HQ, Armoury Drive, DA12 1NB				Window Sample No WS02
Job No 4551	Date 25-02-22	Ground Level (m)	Co-Ordinates ()	
Contractor Sevenoaks Environmental Consultancy Ltd				Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill				
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick-ness)	DESCRIPTION						
0.05	D	PID: 4.6ppm				(0.70)	MADE GROUND: Loose to medium dense dark brown very clayey gravelly Sand with rootlets. Gravels are fine to medium sub-angular to sub-rounded flint glass and tile fragments.						
0.50	D	PID: 7.5ppm				0.70	Medium dense grey mottled orange slightly silty fine SAND.						
1.00	D	PID: 5.1ppm				(3.75)							
1.00-1.45	SPTN	= 12 blows											
1.50	D	PID: 6.6ppm											
2.00	D	PID: 0.6ppm											
2.00-2.45	SPTN	= 21 blows											
2.50	D	PID: 5.7ppm											
3.00	D	PID: 9.5ppm											
3.00-3.45	SPTN	= 24 blows											
3.50	D	PID: 40.8ppm											
4.00	D	PID: 5.3ppm											
4.00-4.45	SPTN	= 20 blows								4.45			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											No groundwater encountered.

All dimensions in metres
Scale 1:50

Client **The Longley Group**

Method/
Plant Used

CDS Rig

Logged By
EH

WINDOW SAMPLE LOG

Project Combined Site Investigation - Former St Johns Ambulance HQ, Armoury Drive, DA12 1NB				Window Sample No WS03
Job No 4551	Date 25-02-22	Ground Level (m)	Co-Ordinates ()	
Contractor Sevenoaks Environmental Consultancy Ltd				Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
0.05	D	PID: 0.5ppm				0.30	MADE GROUND: Soft to firm dark brown mottled white slightly sandy very gravelly Clay with cobbles. Sand is fine. Gravel is fine to coarse angular to subrounded flint, brick, concrete and tile fragments. Cobbles are up to 10cm in diameter.		
0.50	D	PID: 0.4ppm				(0.80)	MADE GROUND: Soft to firm dark brown slightly sandy gravelly Clay. Sand is fine. Gravels are fine to coarse rounded to sub-angular flint, cement and brick fragments.		
1.00	D	PID: 0.7ppm				1.10			
1.00-1.45	SPTN	= 12 blows				1.25	MADE GROUND: Loose to medium dense brown mottled orange slightly clayey gravelly Sand, with rare rootlets. Sand is fine. Gravels are fine to coarse rounded to sub-angular flint, concrete and brick fragments.		
2.00	D	PID: 11.4ppm					Medium dense grey mottled orange slightly silty fine Sand.		
2.00-2.45	SPTN	= 16 blows				(3.20)			
3.00	D	PID: 24.6ppm							
3.00-3.45	SPTN	= 21 blows							
4.00	D	PID: 1.1ppm				4.45			
4.00-4.45	SPTN	= 21 blows							

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Dia. mm	Water Dpt	From	To	Hours	From	To	
											No groundwater encountered.
All dimensions in metres Scale 1:50			Client The Longley Group			Method/ Plant Used CDS Rig			Logged By EH		

WINDOW SAMPLE LOG 4551 ARMOURY DRIVE GPJ AGS3 ALL GDT 5/4/22

WINDOW SAMPLE LOG

Project Combined Site Investigation - Former St Johns Ambulance HQ, Armoury Drive, DA12 1NB				Window Sample No WS04
Job No 4551	Date 25-02-22	Ground Level (m)	Co-Ordinates ()	
Contractor Sevenoaks Environmental Consultancy Ltd				Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
0.05	D	PID: 0.0ppm				0.25	MADE GROUND: Soft dark brown slightly sandy gravelly Clay. Sand is fine. Gravels are fine to medium sub-angular to rounded flint, brick and concrete fragments.		
0.50	D	PID: 0.0ppm				(0.90)	Medium dense grey mottled orange slightly silty gravelly SAND. Sand fine to medium. Gravels are fine to medium sub-angular to rounded flint fragments.		
1.00	D	PID: 0.3ppm				1.15			
1.00-1.45	SPT	16 blows					Medium dense grey mottled orange slightly silty fine SAND.		
1.50	D	PID: 0.3ppm							
2.00	D	PID: 0.9ppm							
2.00-2.45	SPT	11 blows							
2.50	D	PID: 1.5ppm							
3.00	D	PID: 1.3ppm							
3.00-3.45	SPT	25 blows							
3.50	D	PID: 0.2ppm							
4.00	D	PID: 0.9ppm							
4.00-4.45	SPT	15 blows				4.45			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											No groundwater encountered.
All dimensions in metres Scale 1:50			Client The Longley Group			Method/ Plant Used CDS Rig			Logged By EH		

WINDOW SAMPLE LOG 4551 ARMOURY DRIVE GPJ AGS3 ALL GDT 5/4/22

WINDOW SAMPLE LOG

Project Combined Site Investigation - Former St Johns Ambulance HQ, Armoury Drive, DA12 1NB				Window Sample No WS05
Job No 4551	Date 25-02-22	Ground Level (m)	Co-Ordinates ()	
Contractor Sevenoaks Environmental Consultancy Ltd				Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thickness)	DESCRIPTION		
0.05	D	PID: 0.0ppm					MADE GROUND: Soft to firm dark brown mottled yellow slightly sandy gravelly Clay, with occasional rootlets to 0.15m bgl. Sand is fine. Gravels are fine to coarse sub-angular to sub-rounded brick, flint and tile fragments.		
0.50	D	PID: 0.0ppm				(1.35)			
1.00	D	PID: 0.1ppm				1.35			
1.00-1.45	SPT N = 8 blows						Loose to medium dense grey mottled orange slightly silty slightly gravelly SAND. Sand is fine to medium. Gravel is fine to medium rounded flints. ...@between 3.20m and 3.30m bgl gravelly lense noted. Gravel is coarse, subrounded of flint.		
1.20	D	PID: 3.3ppm							
1.50	D	PID: 25.7ppm							
2.00	D	PID: 11.9ppm							
2.00-2.45	SPT N = 8 blows								
2.50	D	PID: 8.8ppm				(3.10)			
3.00	D	PID: 2.1ppm							
3.00-3.45	SPT N = 19 blows								
3.50	D	PID: 4.7ppm							
4.00	D	PID: 1.3ppm							
4.00-4.45	SPT N = 15 blows					4.45			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											No groundwater encountered.
All dimensions in metres Scale 1:50			Client The Longley Group			Method/ Plant Used CDS Rig			Logged By EH		

WINDOW SAMPLE LOG 4551 ARMOURY DRIVE GPJ AGS3 ALL GDT 5/4/22

WINDOW SAMPLE LOG

Project Combined Site Investigation - Former St Johns Ambulance HQ, Armoury Drive, DA12 1NB				Window Sample No TP01
Job No 4551	Date 25-02-22	Ground Level (m)	Co-Ordinates ()	
Contractor Sevenoaks Environmental Consultancy Ltd				Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
0.20 0.25 0.50	D D D	PAC			(0.45) 0.45	MADE GROUND: Loose to medium dark brown very clayey gravelly Sand, with abundant rootlets and small roots (<0.5cm ion diameter). Sand is fine to medium. Gravels are abundant fine to medium sub-angular to sub-rounded flint, glass and rare wood fragements.			
					(0.70) 1.15	...@0.20m bgl potential cement bonded asbestos sheeting fragment noted.			
1.20	D				1.20	MADE GROUND: Dark brown very gravelly slightly clayey Sand. Sand is medium. Gravels are fine to medium sub-rounded to rounded flints and decaying wood fragments. ...@1.10m bgl rare fine sub-angular tile fragments noted. Orange very clayey slightly gravelly SAND. Sand is fine to medium. Gravels are fine sub-rounded flint fragments.			

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Dia. mm	Water Dpt	From	To	Hours	From	To	
											No groundwater encountered.

All dimensions in metres
Scale 1:50

Client Longely Group

Method/
Plant Used Hand Pitting Tools.

Logged By
AS

WINDOW SAMPLE LOG

Project Combined Site Investigation - Former St Johns Ambulance HQ, Armoury Drive, DA12 1NB				Window Sample No TP02
Job No 4551	Date 25-02-22	Ground Level (m)	Co-Ordinates ()	
Contractor Sevenoaks Environmental Consultancy Ltd				Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA				Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)	DESCRIPTION		
0.30	D					(0.55) 0.55	MADE GROUND: Loose to medium blackish grey very sandy Gravel. Sand is medium to coarse. Gravels are fine to coarse sub-angular brick, slate, concrete and flint fragments.		
0.75	D					(0.45) 1.00	MADE GROUND: Loose to medium orange brown very sandy Gravel. Sand is medium. Gravels are medium to coarse sub-rounded to rounded flint fragments.		
1.20	D					1.25	Loose to medium orange brown very gravelly SAND. Sand is medium. Gravels are medium to coarse sub-rounded to rounded flint fragments.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Casing Depth	Dia. mm	Water Dpt	From	To	Hours	From	To	
											No groundwater encountered.
All dimensions in metres Scale 1:50			Client Longely Group			Method/ Plant Used Hand Pitting Tools.			Logged By AS		

WINDOW SAMPLE LOG

Project Combined Site Investigation - Former St Johns Ambulance HQ, Armoury Drive, DA12 1NB				Window Sample No TP03
Job No 4551	Date 25-02-22	Ground Level (m)	Co-Ordinates ()	
Contractor Sevenoaks Environmental Consultancy Ltd				Sheet 1 of 1

SAMPLES & TESTS			Water	STRATA			Geology	Instrument/ Backfill
Depth	Type No	Test Result		Reduced Level	Legend	Depth (Thick- ness)		
0.05	D	PAC			0.10	MADE GROUND: Loose to medium dark brown gravelly slightly clayey Sand. Sand is medium. Gravels are medium sub-roiunded flint and brick fragments.		
0.50	D				(0.80)	MADE GROUND: Loose to medium dark brownish grey gravelly cobbly Sand. Sand is medium to coarse. Gravels are fine to cobble sized angular concrete, flint and brick fragments, including whole bricks. Cobbles are up to 0.25m in diameter.		
0.80	D				0.90	...@0.50m bgl potential cement bonded sheeting fragment noted. Refused upon concrete cobbles @ 0.90m bgl.		

Boring Progress and Water Observations						Chiselling			Water Added		GENERAL REMARKS
Date	Time	Depth	Depth	Casing Dia. mm	Water Dpt	From	To	Hours	From	To	
											No groundwater encountered.
All dimensions in metres Scale 1:50		Client Longely Group				Method/ Plant Used Hand Pitting Tools.					Logged By AS

Appendix E

Chemical Laboratory Results & Waste Classification Assessment

Gravesham Borough Council



Sam Willis
Sevenoaks Environmental Consultancy Ltd
145a Hastings Road
Pembury
Tunbridge Wells
Kent
TN2 4JU

Derwentside Environmental Testing Services Ltd
Unit 1
Rose Lane Industrial Estate
Rose Lane
Lenham Heath
Kent
ME17 2JN
t: 01622 850410

DETS Report No: 22-02123

Site Reference: Gravesend

Project / Job Ref: 4551

Order No: 4551

Sample Receipt Date: 01/03/2022

Sample Scheduled Date: 04/03/2022

Report Issue Number: 1

Reporting Date: 16/03/2022

Authorised by:

Dave Ashworth
Technical Manager

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

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

For Topsoil and WAC analysis the expanded uncertainty measurement should be considered while evaluating results against compliance values.



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Soil Analysis Certificate						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	WS01	WS01	WS01	WS01	WS01
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 4551	Depth (m)	0.05	0.50	1.00	2.50	3.50
Reporting Date: 16/03/2022	DETS Sample No	589137	589138	589139	589140	589141

Determinand	Unit	RL	Accreditation	(n)		
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	
pH	pH Units	N/a	MCERTS	8.1	8.1	
Total Cyanide	mg/kg	< 2	NONE	< 2	< 2	
Free Cyanide	mg/kg	< 2	NONE	< 2	< 2	
Thiocyanate as SCN	mg/kg	< 3	NONE	< 3	< 3	
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	369	280	
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.04	0.03	
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	43	< 10	
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.04	< 0.01	
Sulphide	mg/kg	< 5	NONE	< 5	< 5	
Organic Matter (SOM)	%	< 0.1	MCERTS	0.7	0.5	
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.4	0.3	
Antimony (Sb)	mg/kg	< 1	NONE	1.5	1.3	
Arsenic (As)	mg/kg	< 2	MCERTS	10	9	
Barium (Ba)	mg/kg	< 2.5	MCERTS	56	50	
W/S Boron	mg/kg	< 1	NONE	< 1	< 1	
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2	< 0.2	
Chromium (Cr)	mg/kg	< 2	MCERTS	25	20	
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2	< 2	
Copper (Cu)	mg/kg	< 4	MCERTS	10	10	
Lead (Pb)	mg/kg	< 3	MCERTS	11	7	
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1	< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS	9	17	
Selenium (Se)	mg/kg	< 2	MCERTS	< 3	< 3	
Zinc (Zn)	mg/kg	< 3	MCERTS	46	36	
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2	< 2	

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

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



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Soil Analysis Certificate						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	WS01	WS02	WS03	WS03	WS03
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 4551	Depth (m)	4.00	0.05	0.05	0.50	1.00
Reporting Date: 16/03/2022	DETS Sample No	589142	589143	589144	589145	589146

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025		Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS		7.8	8.2	
Total Cyanide	mg/kg	< 2	NONE		< 2	< 2	
Free Cyanide	mg/kg	< 2	NONE		< 2	< 2	
Thiocyanate as SCN	mg/kg	< 3	NONE		< 3	< 3	
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS		899	2133	
Total Sulphate as SO ₄	%	< 0.02	MCERTS		0.09	0.21	
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS		14	548	
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS		0.01	0.55	
Sulphide	mg/kg	< 5	NONE		< 5	< 5	
Organic Matter (SOM)	%	< 0.1	MCERTS		3.9	1.1	
TOC (Total Organic Carbon)	%	< 0.1	MCERTS		2.3	0.7	
Antimony (Sb)	mg/kg	< 1	NONE		2.9	< 1	
Arsenic (As)	mg/kg	< 2	MCERTS		8	7	
Barium (Ba)	mg/kg	< 2.5	MCERTS		97	35	
W/S Boron	mg/kg	< 1	NONE		< 1	< 1	
Cadmium (Cd)	mg/kg	< 0.2	MCERTS		< 0.2	< 0.2	
Chromium (Cr)	mg/kg	< 2	MCERTS		23	10	
Chromium (hexavalent)	mg/kg	< 2	NONE		< 2	< 2	
Copper (Cu)	mg/kg	< 4	MCERTS		28	10	
Lead (Pb)	mg/kg	< 3	MCERTS		139	39	
Mercury (Hg)	mg/kg	< 1	MCERTS		< 1	< 1	
Nickel (Ni)	mg/kg	< 3	MCERTS		7	12	
Selenium (Se)	mg/kg	< 2	MCERTS		< 3	< 3	
Zinc (Zn)	mg/kg	< 3	MCERTS		135	33	
Total Phenols (monohydric)	mg/kg	< 2	NONE		< 2	< 2	

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



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Soil Analysis Certificate						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	WS03	WS03	WS03	WS04	WS05
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 4551	Depth (m)	2.00	3.00	4.00	0.05	0.50
Reporting Date: 16/03/2022	DETS Sample No	589147	589148	589149	589150	589151

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected			Not Detected
pH	pH Units	N/a	MCERTS	7.9			8.1
Total Cyanide	mg/kg	< 2	NONE	< 2			< 2
Free Cyanide	mg/kg	< 2	NONE	< 2			< 2
Thiocyanate as SCN	mg/kg	< 3	NONE	< 3			< 3
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	784			807
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.08			0.08
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	< 10			21
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	< 0.01			0.02
Sulphide	mg/kg	< 5	NONE	< 5			< 5
Organic Matter (SOM)	%	< 0.1	MCERTS	0.2			1.8
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	0.1			1
Antimony (Sb)	mg/kg	< 1	NONE	1.3			2.4
Arsenic (As)	mg/kg	< 2	MCERTS	3			7
Barium (Ba)	mg/kg	< 2.5	MCERTS	34			65
W/S Boron	mg/kg	< 1	NONE	< 1			< 1
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	< 0.2			< 0.2
Chromium (Cr)	mg/kg	< 2	MCERTS	17			17
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2			< 2
Copper (Cu)	mg/kg	< 4	MCERTS	< 4			16
Lead (Pb)	mg/kg	< 3	MCERTS	3			326
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1			< 1
Nickel (Ni)	mg/kg	< 3	MCERTS	< 3			4
Selenium (Se)	mg/kg	< 2	MCERTS	< 3			< 3
Zinc (Zn)	mg/kg	< 3	MCERTS	13			80
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2			< 2

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



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Soil Analysis Certificate						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	WS05	WS05	WS05	TP01	TP01
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	PAC	None Supplied
Order No: 4551	Depth (m)	1.00	1.50	2.50	0.20	0.25
Reporting Date: 16/03/2022	DETS Sample No	589152	589153	589154	589155	589156

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025				Not Detected
pH	pH Units	N/a	MCERTS				
Total Cyanide	mg/kg	< 2	NONE				
Free Cyanide	mg/kg	< 2	NONE				
Thiocyanate as SCN	mg/kg	< 3	NONE				
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS				
Total Sulphate as SO ₄	%	< 0.02	MCERTS				
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS				
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS				
Sulphide	mg/kg	< 5	NONE				
Organic Matter (SOM)	%	< 0.1	MCERTS				
TOC (Total Organic Carbon)	%	< 0.1	MCERTS				
Antimony (Sb)	mg/kg	< 1	NONE				
Arsenic (As)	mg/kg	< 2	MCERTS				
Barium (Ba)	mg/kg	< 2.5	MCERTS				
W/S Boron	mg/kg	< 1	NONE				
Cadmium (Cd)	mg/kg	< 0.2	MCERTS				
Chromium (Cr)	mg/kg	< 2	MCERTS				
Chromium (hexavalent)	mg/kg	< 2	NONE				
Copper (Cu)	mg/kg	< 4	MCERTS				
Lead (Pb)	mg/kg	< 3	MCERTS				
Mercury (Hg)	mg/kg	< 1	MCERTS				
Nickel (Ni)	mg/kg	< 3	MCERTS				
Selenium (Se)	mg/kg	< 2	MCERTS				
Zinc (Zn)	mg/kg	< 3	MCERTS				
Total Phenols (monohydric)	mg/kg	< 2	NONE				

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



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Soil Analysis Certificate						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	TP02	TP02	TP02	TP03	TP03
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	PAC
Order No: 4551	Depth (m)	0.30	0.75	1.20	0.05	0.50
Reporting Date: 16/03/2022	DETS Sample No	589157	589158	589159	589160	589161

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected	Not Detected	Not Detected	Not Detected
pH	pH Units	N/a	MCERTS	7.7			
Total Cyanide	mg/kg	< 2	NONE	< 2			
Free Cyanide	mg/kg	< 2	NONE	< 2			
Thiocyanate as SCN	mg/kg	< 3	NONE	< 3			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1805			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.18			
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	278			
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.28			
Sulphide	mg/kg	< 5	NONE	< 5			
Organic Matter (SOM)	%	< 0.1	MCERTS	9.4			
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	5.4			
Antimony (Sb)	mg/kg	< 1	NONE	5.9			
Arsenic (As)	mg/kg	< 2	MCERTS	21			
Barium (Ba)	mg/kg	< 2.5	MCERTS	363			
W/S Boron	mg/kg	< 1	NONE	< 1			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	1.5			
Chromium (Cr)	mg/kg	< 2	MCERTS	22			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	232			
Lead (Pb)	mg/kg	< 3	MCERTS	797			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	14			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	363			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2			

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



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Soil Analysis Certificate						
DETS Report No: 22-02123	Date Sampled	25/02/22				
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied				
Site Reference: Gravesend	TP / BH No	TP03				
Project / Job Ref: 4551	Additional Refs	None Supplied				
Order No: 4551	Depth (m)	0.80				
Reporting Date: 16/03/2022	DETS Sample No	589162				

Determinand	Unit	RL	Accreditation				
Asbestos Screen ^(S)	N/a	N/a	ISO17025	Not Detected			
pH	pH Units	N/a	MCERTS	8.1			
Total Cyanide	mg/kg	< 2	NONE	< 2			
Free Cyanide	mg/kg	< 2	NONE	< 2			
Thiocyanate as SCN	mg/kg	< 3	NONE	< 3			
Total Sulphate as SO ₄	mg/kg	< 200	MCERTS	1665			
Total Sulphate as SO ₄	%	< 0.02	MCERTS	0.17			
W/S Sulphate as SO ₄ (2:1)	mg/l	< 10	MCERTS	178			
W/S Sulphate as SO ₄ (2:1)	g/l	< 0.01	MCERTS	0.18			
Sulphide	mg/kg	< 5	NONE	< 5			
Organic Matter (SOM)	%	< 0.1	MCERTS	7.2			
TOC (Total Organic Carbon)	%	< 0.1	MCERTS	4.2			
Antimony (Sb)	mg/kg	< 1	NONE	7.2			
Arsenic (As)	mg/kg	< 2	MCERTS	10			
Barium (Ba)	mg/kg	< 2.5	MCERTS	157			
W/S Boron	mg/kg	< 1	NONE	1.9			
Cadmium (Cd)	mg/kg	< 0.2	MCERTS	0.3			
Chromium (Cr)	mg/kg	< 2	MCERTS	18			
Chromium (hexavalent)	mg/kg	< 2	NONE	< 2			
Copper (Cu)	mg/kg	< 4	MCERTS	56			
Lead (Pb)	mg/kg	< 3	MCERTS	394			
Mercury (Hg)	mg/kg	< 1	MCERTS	< 1			
Nickel (Ni)	mg/kg	< 3	MCERTS	7			
Selenium (Se)	mg/kg	< 2	MCERTS	< 3			
Zinc (Zn)	mg/kg	< 3	MCERTS	184			
Total Phenols (monohydric)	mg/kg	< 2	NONE	< 2			

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



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	WS01	WS01	WS01	WS02	WS03
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 4551	Depth (m)	0.05	0.50	1.00	0.05	0.05
Reporting Date: 16/03/2022	DETS Sample No	589137	589138	589139	589143	589144

Determinand	Unit	RL	Accreditation	(n)				
Naphthalene	mg/kg	< 0.1	MCERTS	1.95	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	1.34	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	46.40	< 0.1	0.12	< 0.1	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	33.50	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	290	0.21	0.73	< 0.1	< 0.1
Anthracene	mg/kg	< 0.1	MCERTS	79	< 0.1	0.19	< 0.1	< 0.1
Fluoranthene	mg/kg	< 0.1	MCERTS	223	0.15	0.62	< 0.1	< 0.1
Pyrene	mg/kg	< 0.1	MCERTS	168	0.12	0.50	< 0.1	< 0.1
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	76.90	< 0.1	0.21	< 0.1	< 0.1
Chrysene	mg/kg	< 0.1	MCERTS	58.40	< 0.1	0.20	< 0.1	< 0.1
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	63.50	< 0.1	0.21	< 0.1	< 0.1
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	16.80	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	48.20	< 0.1	0.16	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	20.90	< 0.1	< 0.1	< 0.1	< 0.1
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	3.53	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	18.10	< 0.1	< 0.1	< 0.1	< 0.1
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	1150	< 1.6	2.9	< 1.6	< 1.6

(n) Please note we are only MCERTS accredited (UK soils only) for sand, loam and clay and any other matrix is outside our scope of accreditation



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Soil Analysis Certificate - Speciated PAHs						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	
Site Reference: Gravesend	TP / BH No	WS03	WS05	TP02	TP03	
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	
Order No: 4551	Depth (m)	2.00	0.50	0.30	0.80	
Reporting Date: 16/03/2022	DETS Sample No	589147	589151	589157	589162	

Determinand	Unit	RL	Accreditation				
Naphthalene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.38	< 0.1
Acenaphthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.78	< 0.1
Fluorene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	0.85	< 0.1
Phenanthrene	mg/kg	< 0.1	MCERTS	< 0.1	0.21	29.50	0.38
Anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	4.82	0.12
Fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.44	66	1.04
Pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.37	54.10	0.90
Benzo(a)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	0.15	24.20	0.42
Chrysene	mg/kg	< 0.1	MCERTS	< 0.1	0.19	21.30	0.54
Benzo(b)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	0.20	25	0.79
Benzo(k)fluoranthene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	5.23	0.26
Benzo(a)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	0.14	17.60	0.58
Indeno(1,2,3-cd)pyrene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	6.54	0.47
Dibenz(a,h)anthracene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	1.83	0.13
Benzo(ghi)perylene	mg/kg	< 0.1	MCERTS	< 0.1	< 0.1	4.91	0.49
Total EPA-16 PAHs	mg/kg	< 1.6	MCERTS	< 1.6	1.7	263	6.1



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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	WS01	WS01	WS01	WS01	WS01
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 4551	Depth (m)	0.05	0.50	1.00	2.50	3.50
Reporting Date: 16/03/2022	DETS Sample No	589137	589138	589139	589140	589141

Determinand	Unit	RL	Accreditation	(n)				
EPH Texas (C6 - C8)	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EPH Texas (>C8 - C10)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C10 - C12)	mg/kg	< 1	MCERTS	4	< 1	< 1	< 1	< 1
EPH Texas (>C12 - C16)	mg/kg	< 1	MCERTS	292	< 1	< 1	< 1	< 1
EPH Texas (>C16 - C21)	mg/kg	< 1	MCERTS	1282	< 1	2	< 1	< 1
EPH Texas (>C21 - C40)	mg/kg	< 6	MCERTS	1202	< 6	< 6	< 6	< 6
EPH Texas (C6 - C40)	mg/kg	< 6	NONE	2780	< 6	< 6	< 6	< 6

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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	WS01	WS02	WS03	WS03	WS03
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 4551	Depth (m)	4.00	0.05	0.05	1.00	2.00
Reporting Date: 16/03/2022	DETS Sample No	589142	589143	589144	589146	589147

Determinand	Unit	RL	Accreditation					
EPH Texas (C6 - C8)	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EPH Texas (>C8 - C10)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C10 - C12)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C12 - C16)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C16 - C21)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C21 - C40)	mg/kg	< 6	MCERTS	< 6	< 6	< 6	< 6	< 6
EPH Texas (C6 - C40)	mg/kg	< 6	NONE	< 6	< 6	< 6	< 6	< 6



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Soil Analysis Certificate - EPH Texas Banded						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22	25/02/22	25/02/22
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Site Reference: Gravesend	TP / BH No	WS03	WS03	WS05	WS05	WS05
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Order No: 4551	Depth (m)	3.00	4.00	0.50	1.00	1.50
Reporting Date: 16/03/2022	DETS Sample No	589148	589149	589151	589152	589153

Determinand	Unit	RL	Accreditation					
EPH Texas (C6 - C8)	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
EPH Texas (>C8 - C10)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C10 - C12)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C12 - C16)	mg/kg	< 1	MCERTS	< 1	< 1	< 1	< 1	< 1
EPH Texas (>C16 - C21)	mg/kg	< 1	MCERTS	< 1	< 1	2	< 1	< 1
EPH Texas (>C21 - C40)	mg/kg	< 6	MCERTS	< 6	< 6	7	< 6	< 6
EPH Texas (C6 - C40)	mg/kg	< 6	NONE	< 6	< 6	9	< 6	< 6



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Soil Analysis Certificate - EPH Texas Banded

DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22	25/02/22		
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied	None Supplied		
Site Reference: Gravesend	TP / BH No	WS05	TP02	TP03		
Project / Job Ref: 4551	Additional Refs	None Supplied	None Supplied	None Supplied		
Order No: 4551	Depth (m)	2.50	0.30	0.80		
Reporting Date: 16/03/2022	DETS Sample No	589154	589157	589162		

Determinand	Unit	RL	Accreditation					
EPH Texas (C6 - C8)	mg/kg	< 0.05	NONE	< 0.05	< 0.05	< 0.05		
EPH Texas (>C8 - C10)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
EPH Texas (>C10 - C12)	mg/kg	< 1	MCERTS	< 1	< 1	< 1		
EPH Texas (>C12 - C16)	mg/kg	< 1	MCERTS	< 1	12	< 1		
EPH Texas (>C16 - C21)	mg/kg	< 1	MCERTS	< 1	243	7		
EPH Texas (>C21 - C40)	mg/kg	< 6	MCERTS	< 6	435	81		
EPH Texas (C6 - C40)	mg/kg	< 6	NONE	< 6	690	88		



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Soil Analysis Certificate - Volatile Organic Compounds (VOC)

DETS Report No: 22-02123	Date Sampled	25/02/22				
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied				
Site Reference: Gravesend	TP / BH No	WS03				
Project / Job Ref: 4551	Additional Refs	None Supplied				
Order No: 4551	Depth (m)	3.00				
Reporting Date: 16/03/2022	DETS Sample No	589148				

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

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 22-02123		Date Sampled	25/02/22		Landfill Waste Acceptance Criteria Limits			
Sevenoaks Environmental Consultancy Ltd		Time Sampled	None Supplied					
Site Reference: Gravesend		TP / BH No	WS03					
Project / Job Ref: 4551		Additional Refs	None Supplied					
Order No: 4551		Depth (m)	2.00					
Reporting Date: 16/03/2022		DETS Sample No	589147					
Determinand	Unit	MDL			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill	
TOC ^{MU}	%	< 0.1	0.1		3%	5%	6%	
Loss on Ignition	%	< 0.01	1.90		--	--	10%	
BTEX ^{MU}	mg/kg	< 0.05	< 0.05		6	--	--	
Sum of PCBs	mg/kg	< 0.1	< 0.1		1	--	--	
Mineral Oil ^{MU}	mg/kg	< 10	< 10		500	--	--	
Total PAH ^{MU}	mg/kg	< 1.7	< 1.7		100	--	--	
pH ^{MU}	pH Units	N/a	7.9		--	>6	--	
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1		--	To be evaluated	To be evaluated	
Eluate Analysis			2:1 mg/l	8:1 mg/l	Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)		
Arsenic ^U		< 0.01	< 0.01		< 0.2	0.5	2	
Barium ^U		< 0.02	< 0.02		< 0.1	20	100	
Cadmium ^U		< 0.0005	< 0.0005		< 0.02	0.04	1	
Chromium ^U		< 0.005	< 0.005		< 0.20	0.5	10	
Copper ^U		< 0.01	< 0.01		< 0.5	2	50	
Mercury ^U		< 0.0005	< 0.0005		< 0.005	0.01	0.2	
Molybdenum ^U		0.006	< 0.001		< 0.1	0.5	10	
Nickel ^U		< 0.007	< 0.007		< 0.2	0.4	10	
Lead ^U		< 0.005	< 0.005		< 0.2	0.5	10	
Antimony ^U		< 0.005	< 0.005		< 0.05	0.06	0.7	
Selenium ^U		< 0.005	< 0.005		< 0.05	0.1	0.5	
Zinc ^U		0.006	0.009		< 0.2	4	50	
Chloride ^U		1	2		16	800	15000	
Fluoride ^U		< 0.5	< 0.5		< 1	10	150	
Sulphate ^U		2	2		< 20	1000	20000	
TDS		35	18		207	4000	60000	
Phenol Index		< 0.01	< 0.01		< 0.5	1	-	
DOC		11.2	12		119	500	800	
Leach Test Information								
Sample Mass (kg)			0.20					
Dry Matter (%)			86.2					
Moisture (%)			16					
Stage 1								
Volume Eluate L2 (litres)			0.32					
Filtered Eluate VE1 (litres)			0.28					

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
 Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation
 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test

Waste Acceptance Criteria Analytical Certificate - BS EN 12457/3

DETS Report No: 22-02123		Date Sampled	25/02/22		Landfill Waste Acceptance Criteria Limits		
Sevenoaks Environmental Consultancy Ltd		Time Sampled	None Supplied				
Site Reference: Gravesend		TP / BH No	TP02				
Project / Job Ref: 4551		Additional Refs	None Supplied				
Order No: 4551		Depth (m)	0.30				
Reporting Date: 16/03/2022		DETS Sample No	589157				
Determinand	Unit	MDL			Inert Waste Landfill	Stable Non-reactive HAZARDOUS waste in non-hazardous Landfill	Hazardous Waste Landfill
TOC ^{MU}	%	< 0.1	5.4		3%	5%	6%
Loss on Ignition	%	< 0.01	8.70		--	--	10%
BTEX ^{MU}	mg/kg	< 0.05	< 0.05		6	--	--
Sum of PCBs	mg/kg	< 0.1	< 0.1		1	--	--
Mineral Oil ^{MU}	mg/kg	< 10	84		500	--	--
Total PAH ^{MU}	mg/kg	< 1.7	265		100	--	--
pH ^{MU}	pH Units	N/a	7.7		--	>6	--
Acid Neutralisation Capacity	mol/kg (+/-)	< 1	< 1		--	To be evaluated	To be evaluated
Eluate Analysis			2:1 mg/l	8:1 mg/l	Cumulative 10:1 mg/kg	Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg (mg/kg)	
Arsenic ^U		0.01	< 0.01		< 0.2	0.5	2
Barium ^U		0.06	< 0.02		0.2	20	100
Cadmium ^U		< 0.0005	< 0.0005		< 0.02	0.04	1
Chromium ^U		< 0.005	< 0.005		< 0.20	0.5	10
Copper ^U		0.02	0.02		< 0.5	2	50
Mercury ^U		< 0.0005	< 0.0005		< 0.005	0.01	0.2
Molybdenum ^U		0.003	0.002		< 0.1	0.5	10
Nickel ^U		< 0.007	< 0.007		< 0.2	0.4	10
Lead ^U		< 0.005	0.008		< 0.2	0.5	10
Antimony ^U		0.006	< 0.005		< 0.05	0.06	0.7
Selenium ^U		< 0.005	< 0.005		< 0.05	0.1	0.5
Zinc ^U		0.011	0.011		< 0.2	4	50
Chloride ^U		10	3		36	800	15000
Fluoride ^U		0.8	< 0.5		1	10	150
Sulphate ^U		154	11		299	1000	20000
TDS		257	78		1016	4000	60000
Phenol Index		< 0.01	< 0.01		< 0.5	1	-
DOC		15.7	19.5		190	500	800
Leach Test Information							
Sample Mass (kg)			0.20				
Dry Matter (%)			89				
Moisture (%)			12.4				
Stage 1							
Volume Eluate L2 (litres)			0.33				
Filtered Eluate VE1 (litres)			0.23				

Analytical results are expressed on a dry weight basis where samples are assisted-dried at less than 30°C. The Samples Descriptions page describes if the test is performed on the dried or as-received portion
 Stated limits are for guidance only and DETS Ltd cannot be held responsible for any discrepancies with current legislation
 M Denotes MCERTS accredited test
 U Denotes ISO17025 accredited test



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Bulk Analysis Certificate						
DETS Report No: 22-02123	Date Sampled	25/02/22	25/02/22			
Sevenoaks Environmental Consultancy Ltd	Time Sampled	None Supplied	None Supplied			
Site Reference: Gravesend	TP / BH No	TP01	TP03			
Project / Job Ref: 4551	Additional Refs	PAC	PAC			
Order No: 4551	Depth (m)	0.20	0.50			
Reporting Date: 16/03/2022	DETS Sample No	589155	589161			

Determinand	Unit	RL	Accreditation			
Asbestos Type ^(S)	PLM Result	N/a	ISO17025	Chrysotile	Chrysotile	
Sample Matrix ^(S)	Material Type	N/a	NONE	Cement	Cement	

The samples have been examined to identify the presence of asbestiform minerals by polarising light microscopy and dispersion staining technique to In-House Procedures QTSE600 Determination of Asbestos in Bulk Materials; Asbestos in Soils/Sediments (fibre screening and identification) that is in accordance with the Health and Safety Executive HSG 248 Appendix 2.

This report refers to samples as received, and Dets Ltd, takes no responsibility for the accuracy or competence of sampling by others.

The material description shall be regarded as tentative and is not included in our scope of UKAS Accreditation.

Opinions and interpretations expressed herein are outside the scope of UKAS Accreditation.

RL: Reporting Limit

Subcontracted analysis ^(S)



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Soil Analysis Certificate - Sample Descriptions

DETS Report No: 22-02123
Sevenoaks Environmental Consultancy Ltd
Site Reference: Gravesend
Project / Job Ref: 4551
Order No: 4551
Reporting Date: 16/03/2022

DETS Sample No	TP / BH No	Additional Refs	Depth (m)	Moisture Content (%)	Sample Matrix Description
589137	WS01	None Supplied	0.05	2	Black tar
589138	WS01	None Supplied	0.50	15.3	Light brown sandy clay
589139	WS01	None Supplied	1.00	13.9	Light brown sandy clay
589140	WS01	None Supplied	2.50	14.9	Brown sandy clay
589141	WS01	None Supplied	3.50	19.9	Brown sandy clay
589142	WS01	None Supplied	4.00	22	Brown sandy clay
589143	WS02	None Supplied	0.05	14.9	Brown sandy clay
589144	WS03	None Supplied	0.05	20.2	Brown sandy clay with chalk
589146	WS03	None Supplied	1.00	8	Brown sandy clay with stones
589147	WS03	None Supplied	2.00	13.8	Brown sandy clay
589148	WS03	None Supplied	3.00	14.8	Brown sandy clay
589149	WS03	None Supplied	4.00	20	Brown sandy clay
589151	WS05	None Supplied	0.50	11.2	Brown sandy clay
589152	WS05	None Supplied	1.00	7.2	Brown sandy clay with stones
589153	WS05	None Supplied	1.50	15.7	Brown sandy clay
589154	WS05	None Supplied	2.50	19.1	Brown sandy clay
589157	TP02	None Supplied	0.30	11	Black sandy clay with stones and brick
589162	TP03	None Supplied	0.80	14.1	Black sandy clay with stones and concrete

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

Insufficient Sample ^{1/5}

Unsuitable Sample ^{1/5}



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Soil Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 22-02123

Sevenoaks Environmental Consultancy Ltd

Site Reference: Gravesend

Project / Job Ref: 4551

Order No: 4551

Reporting Date: 16/03/2022

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

D Dried
AR As Received



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Water Analysis Certificate - Methodology & Miscellaneous Information

DETS Report No: 22-02123

Sevenoaks Environmental Consultancy Ltd

Site Reference: Gravesend

Project / Job Ref: 4551

Order No: 4551

Reporting Date: 16/03/2022

Matrix	Analysed On	Determinand	Brief Method Description	Method No
Water	UF	Alkalinity	Determination of alkalinity by titration against hydrochloric acid using bromocresol green as the end point	E103
Water	F	Ammoniacal Nitrogen	Determination of ammoniacal nitrogen by discrete analyser.	E126
Water	UF	BTEX	Determination of BTEX by headspace GC-MS	E101
Water	F	Cations	Determination of cations by filtration followed by ICP-MS	E102
Water	UF	Chemical Oxygen Demand (COD)	Determination using a COD reactor followed by colorimetry	E112
Water	F	Chloride	Determination of chloride by filtration & analysed by ion chromatography	E109
Water	F	Chromium - Hexavalent	Determination of hexavalent chromium by acidification, addition of 1,5 diphenylcarbazide followed by	E116
Water	UF	Cyanide - Complex	Determination of complex cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Free	Determination of free cyanide by distillation followed by colorimetry	E115
Water	UF	Cyanide - Total	Determination of total cyanide by distillation followed by colorimetry	E115
Water	UF	Cyclohexane Extractable Matter (CEM)	Gravimetrically determined through liquid:liquid extraction with cyclohexane	E111
Water	F	Diesel Range Organics (C10 - C24)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	Dissolved Organic Content (DOC)	Determination of DOC by filtration followed by low heat with persulphate addition followed by IR dete	E110
Water	UF	Electrical Conductivity	Determination of electrical conductivity by electrometric measurement	E123
Water	F	EPH (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID	E104
Water	F	EPH TEXAS (C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C40)	Determination of liquid:liquid extraction with hexane followed by GC-FID for C8 to C40. C6 to C8 by headspace GC-MS	E104
Water	F	Fluoride	Determination of Fluoride by filtration & analysed by ion chromatography	E109
Water	F	Hardness	Determination of Ca and Mg by ICP-MS followed by calculation	E102
Leachate	F	Leachate Preparation - NRA	Based on National Rivers Authority leaching test 1994	E301
Leachate	F	Leachate Preparation - WAC	Based on BS EN 12457 Pt1, 2, 3	E302
Water	F	Metals	Determination of metals by filtration followed by ICP-MS	E102
Water	F	Mineral Oil (C10 - C40)	Determination of liquid:liquid extraction with hexane followed by GI-FID	E104
Water	F	Nitrate	Determination of nitrate by filtration & analysed by ion chromatography	E109
Water	UF	Monohydric Phenol	Determination of phenols by distillation followed by colorimetry	E121
Water	F	PAH - Speciated (EPA 16)	Determination of PAH compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E105
Water	F	PCB - 7 Congeners	Determination of PCB compounds by concentration through SPE cartridge, collection in dichloromethane	E108
Water	UF	Petroleum Ether Extract (PEE)	Gravimetrically determined through liquid:liquid extraction with petroleum ether	E111
Water	UF	pH	Determination of pH by electrometric measurement	E107
Water	F	Phosphate	Determination of phosphate by filtration & analysed by ion chromatography	E109
Water	UF	Redox Potential	Determination of redox potential by electrometric measurement	E113
Water	F	Sulphate (as SO4)	Determination of sulphate by filtration & analysed by ion chromatography	E109
Water	UF	Sulphide	Determination of sulphide by distillation followed by colorimetry	E118
Water	F	SVOC	Determination of semi-volatile organic compounds by concentration through SPE cartridge, collection in dichloromethane followed by GC-MS	E106
Water	UF	Toluene Extractable Matter (TEM)	Gravimetrically determined through liquid:liquid extraction with toluene	E111
Water	UF	Total Organic Carbon (TOC)	Low heat with persulphate addition followed by IR detection	E110
Water	F	TPH CWG (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C34, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C35. C5 to C8 by headspace GC-MS	E104
Water	F	TPH LQM (ali: C5-C6, C6-C8, C8-C10, C10-C12, C12-C16, C16-C35, C35-C44, aro: C5-C7, C7-C8, C8-C10, C10-C12, C12-C16, C16-C21, C21-C35, C35-C44)	Determination of liquid:liquid extraction with hexane, fractionating with SPE followed by GC-FID for C8 to C44. C5 to C8 by headspace GC-MS	E104
Water	UF	VOCs	Determination of volatile organic compounds by headspace GC-MS	E101
Water	UF	VPH (C6-C8 & C8-C10)	Determination of hydrocarbons C6-C8 by headspace GC-MS & C8-C10 by GC-FID	E101

Key

F Filtered
UF Unfiltered

Parameter	Matrix Type	Suite Reference	Expanded Uncertainty Measurement	Unit
TOC	Soil	BS EN 12457	12.1	%
Loss on Ignition	Soil	BS EN 12457	20.4	%
BTEX	Soil	BS EN 12457	14.0	%
Sum of PCBs	Soil	BS EN 12457	21.1	%
Mineral Oil	Soil	BS EN 12457	9.0	%
Total PAH	Soil	BS EN 12457	13.9	%
pH	Soil	BS EN 12457	0.248	Units
Acid Neutralisation Capacity	Soil	BS EN 12457	18.0	%
Arsenic	Leachate	BS EN 12457	15.9	%
Barium	Leachate	BS EN 12457	14.4	%
Cadmium	Leachate	BS EN 12457	12.6	%
Chromium	Leachate	BS EN 12457	13.4	%
Copper	Leachate	BS EN 12457	13.1	%
Mercury	Leachate	BS EN 12457	16.2	%
Molybdenum	Leachate	BS EN 12457	13.6	%
Nickel	Leachate	BS EN 12457	16.0	%
Lead	Leachate	BS EN 12457	12.4	%
Antimony	Leachate	BS EN 12457	14.6	%
Selenium	Leachate	BS EN 12457	16.5	%
Zinc	Leachate	BS EN 12457	14.5	%
Chloride	Leachate	BS EN 12457	17.0	%
Fluoride	Leachate	BS EN 12457	12.0	%
Sulphate	Leachate	BS EN 12457	25.1	%
TDS	Leachate	BS EN 12457	10.0	%
Phenol Index	Leachate	BS EN 12457	12.9	%
DOC	Leachate	BS EN 12457	10.0	%
Clay Content	Soil	BS 3882: 2015	15.0	%
Silt Content	Soil	BS 3882: 2015	14.0	%
Sand Content	Soil	BS 3882: 2015	13.0	%
Loss on Ignition	Soil	BS 3882: 2015	20.4	%
pH	Soil	BS 3882: 2015	0.248	Units
Carbonate	Soil	BS 3882: 2015	12.0	%
Total Nitrogen	Soil	BS 3882: 2015	12.0	%
Phosphorus (Extractable)	Soil	BS 3882: 2015	24.0	%
Potassium (Extractable)	Soil	BS 3882: 2015	20.0	%
Magnesium (Extractable)	Soil	BS 3882: 2015	26.0	%
Zinc	Soil	BS 3882: 2015	14.9	%
Copper	Soil	BS 3882: 2015	16.0	%
Nickel	Soil	BS 3882: 2015	17.7	%
Available Sodium	Soil	BS 3882: 2015	23.0	%
Available Calcium	Soil	BS 3882: 2015	23.0	%
Electrical Conductivity	Soil	BS 3882: 2015	10.0	%

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



KCQQY-ERM7V-0TLDJ

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

22-02123.1 Tarmac

Description/Comments

Project

4551

Site

Armoury Drive

Classified by

Name: **Sam Willis**
Date: **29 Mar 2022 14:30 GMT**
Telephone: **01892 822999**

Company: **Sevenoaks Environmental Consultants**
145a Hastings Road
Pembury
Tunbridge Wells
TN2 4JU

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

Course
Hazardous Waste Classification

Date
50% complete

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	Page
1	WS01-0.05-25/02/2022	0.05	Hazardous	HP 3(i), HP 7, HP 11	2

Related documents

#	Name	Description
1	22-02123.1.hwol	.hwol file used to create the Job

Report

Created by: Sam Willis

Created date: 29 Mar 2022 14:30 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	4
Appendix B: Rationale for selection of metal species	5
Appendix C: Version	5

Classification of sample: WS01-0.05-25/02/2022

 **Hazardous Waste**
Classified as **17 03 01 ***
in the List of Waste

Sample details

Sample name:	LoW Code:
WS01-0.05-25/02/2022	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.05 m	Entry:
Moisture content:	17 03 01 * (Bituminous mixtures containing coal tar)
2%	
(wet weight correction)	

Hazard properties

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 hazardous because No free product

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.272%)

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

Hazard Statements hit:

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:

TPH (C6 to C40) petroleum group: (conc.: 0.272%)

HP 11: Mutagenic "waste which may cause a mutation, that is a permanent change in the amount or structure of the genetic material in a cell"

Hazard Statements hit:

Muta. 1B; H340 "May cause genetic defects [state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard]."

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.272%)

Determinands

Moisture content: 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	naphthalene				1.95 mg/kg		1.911 mg/kg	0.000191 %	✓	
	601-052-00-2	202-049-5	91-20-3							
2	acenaphthylene				1.34 mg/kg		1.313 mg/kg	0.000131 %	✓	
		205-917-1	208-96-8							
3	acenaphthene				46.4 mg/kg		45.472 mg/kg	0.00455 %	✓	
		201-469-6	83-32-9							
4	fluorene				33.5 mg/kg		32.83 mg/kg	0.00328 %	✓	
		201-695-5	86-73-7							
5	phenanthrene				290 mg/kg		284.2 mg/kg	0.0284 %	✓	
		201-581-5	85-01-8							

#	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							
6	anthracene	204-371-1	120-12-7		79 mg/kg		77.42 mg/kg	0.00774 %	✓	
7	fluoranthene	205-912-4	206-44-0		223 mg/kg		218.54 mg/kg	0.0219 %	✓	
8	pyrene	204-927-3	129-00-0		168 mg/kg		164.64 mg/kg	0.0165 %	✓	
9	benzo[a]anthracene	601-033-00-9	200-280-6	56-55-3	76.9 mg/kg		75.362 mg/kg	0.00754 %	✓	
10	chrysene	601-048-00-0	205-923-4	218-01-9	58.4 mg/kg		57.232 mg/kg	0.00572 %	✓	
11	benzo[a]pyrene; benzo[def]chrysene	601-032-00-3	200-028-5	50-32-8	48.2 mg/kg		47.236 mg/kg	0.00472 %	✓	
12	indeno[123-cd]pyrene	205-893-2	193-39-5		20.9 mg/kg		20.482 mg/kg	0.00205 %	✓	
13	dibenz[a,h]anthracene	601-041-00-2	200-181-8	53-70-3	3.53 mg/kg		3.459 mg/kg	0.000346 %	✓	
14	benzo[ghi]perylene	205-883-8	191-24-2		18.1 mg/kg		17.738 mg/kg	0.00177 %	✓	
15	TPH (C6 to C40) petroleum group		TPH		2780 mg/kg		2724.4 mg/kg	0.272 %	✓	
16	benzo[bk]fluoranthene	[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9		80.3 mg/kg		78.694 mg/kg	0.00787 %	✓	
Total:								0.385 %		

Key

- User supplied data
- Hazardous result
- Determinand defined or amended by HazWasteOnline (see Appendix A)

Appendix A: Classifier defined and non GB MCL determinands

■ **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

■ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

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: Carc. 2; H351

■ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>
Data source date: 23 Jul 2015
Hazard Statements: Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

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

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013
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

- benzo[bk]fluoranthene (EC Number: [1] 205-911-9 [2] 205-916-6, CAS Number: [1] 205-99-2 [2] 207-08-9)

Description/Comments: Combined data from harmonised entries in CLP for benzo[b] and benzo[k]fluoranthene; C&L Inventory Database

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

Data source date: 02 Mar 2017

Hazard Statements: Carc. 1B; H350 , Aquatic Acute 1; H400 , Aquatic Chronic 1; H410

Appendix B: Rationale for selection of metal species

None used in this classification

Appendix C: Version

HazWasteOnline Classification Engine: **WM3 1st Edition v1.2.GB - Oct 2021**

HazWasteOnline Classification Engine Version: 2017.202.300.300 (23 Mar 2022)

HazWasteOnline Database: 2022.81.5064.9565 (22 Mar 2022)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

Waste Classification Report

HazWasteOnline™ classifies waste as either **hazardous** or **non-hazardous** based on its chemical composition, related legislation and the rules and data defined in the current UK or EU technical guidance (Appendix C) (note that HP 9 Infectious is not assessed). It is the responsibility of the classifier named below to:

- understand the origin of the waste
- select the correct List of Waste code(s)
- confirm that the list of determinands, results and sampling plan are fit for purpose
- select and justify the chosen metal species (Appendix B)
- correctly apply moisture correction and other available corrections
- add the meta data for their user-defined substances (Appendix A)
- check that the classification engine is suitable with respect to the national destination of the waste (Appendix C)



AP9V2-B18CX-18H7N

To aid the reviewer, the laboratory results, assumptions and justifications managed by the classifier are highlighted in pale yellow.

Job name

22-02123.1

Description/Comments

Project

4551

Site

Armoury Drive

Classified by

Name: **Sam Willis**
Date: **29 Mar 2022 14:23 GMT**
Telephone: **01892 822999**
Company: **Sevenoaks Environmental Consultants**
145a Hastings Road
Pembury
Tunbridge Wells
TN2 4JU

HazWasteOnline™ provides a two day, hazardous waste classification course that covers the use of the software and both basic and advanced waste classification techniques. Certification has to be renewed every 3 years.

HazWasteOnline™ Certification:

Course	Date
Hazardous Waste Classification	50% complete

Job summary

#	Sample name	Depth [m]	Classification Result	Hazard properties	WAC Results			Page
					Inert	SNRHW	Hazardous	
1	WS01-0.50-25/02/2022	0.50	Non Hazardous		-	-	-	3
2	WS01-1.00-25/02/2022	1.00	Non Hazardous		-	-	-	5
3	WS02-0.05-25/02/2022	0.05	Non Hazardous		-	-	-	7
4	WS03-0.05-25/02/2022	0.05	Non Hazardous		-	-	-	9
5	WS03-2.00-25/02/2022	2.00	Non Hazardous		Pass	Pass	N/A	11
6	WS05-0.50-25/02/2022	0.50	Non Hazardous		-	-	-	14
7	TP02-0.30-25/02/2022	0.30	Non Hazardous		Fail	Fail	N/A	17
8	TP03-0.80-25/02/2022	0.80	Non Hazardous		-	-	-	21

Related documents

#	Name	Description
1	22-02123.1.hwol	.hwol file used to create the Job

WAC results

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate the samples in this Job: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

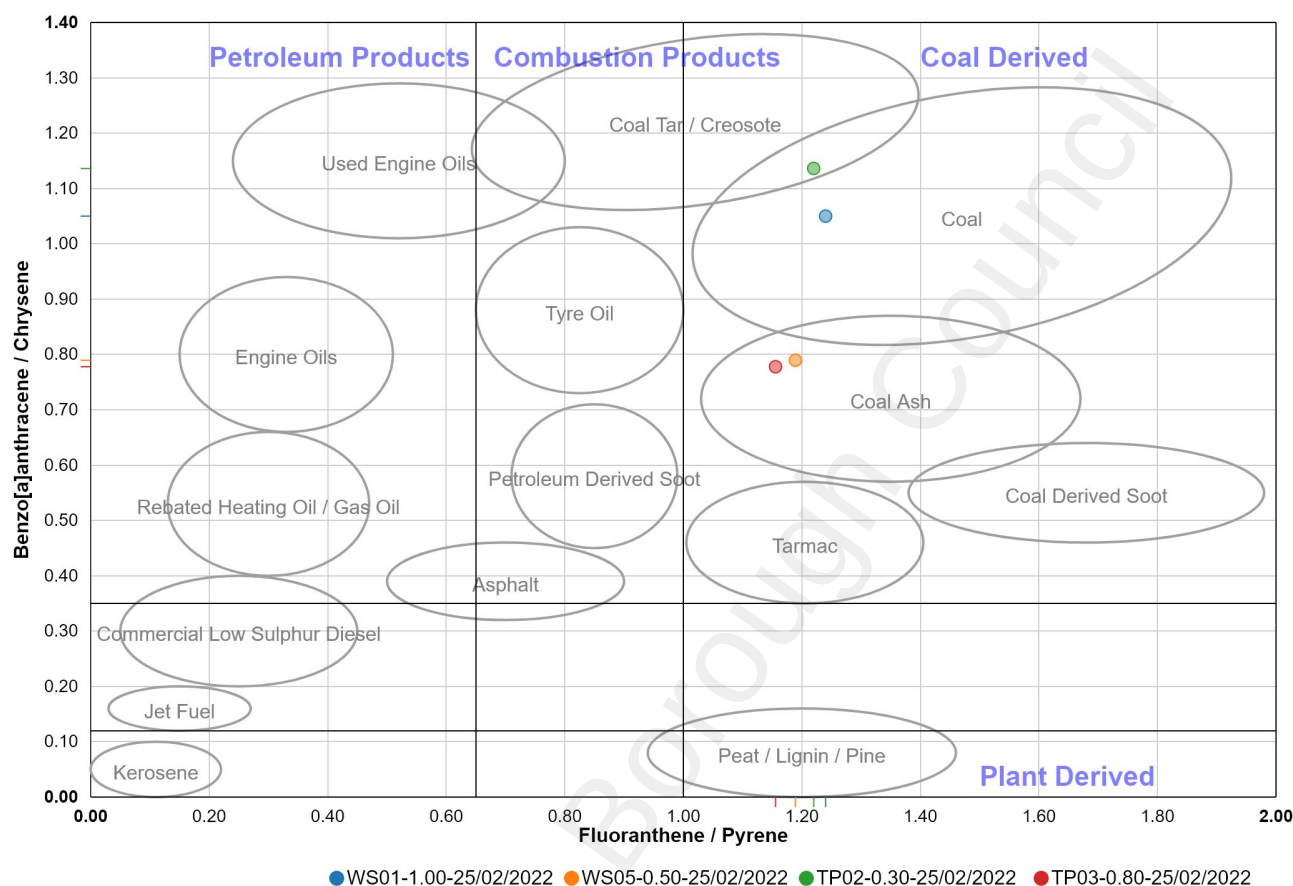
Report

Created by: Sam Willis

Created date: 29 Mar 2022 14:23 GMT

Appendices	Page
Appendix A: Classifier defined and non GB MCL determinands	24
Appendix B: Rationale for selection of metal species	26
Appendix C: Version	26

Double Ratio PAH Plot



Disclaimer

The domains, oval areas and the plotted points are **indicators only** and must be combined with other lines of evidence to form conclusions. Samples marked with an empty circle are not plotted as they fall outside of the graph's boundaries.

Credits

The domains and the horizontal and vertical lines are derived from Yunker et al. 2002 (Organic Geochemistry 33, 489-515). The oval areas and their labels are with kind permission of Jones Environmental Forensics Limited (now Element Materials Technology).

Classification of sample: WS01-0.50-25/02/2022

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

Sample details

Sample name:	LoW Code:
WS01-0.50-25/02/2022	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.50 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
15.3%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 15.3% 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	antimony { antimony compounds, with the exception of the tetroxide (Sb ₂ O ₄), pentoxide (Sb ₂ O ₅), trisulphide (Sb ₂ S ₃), pentasulphide (Sb ₂ S ₅) and those specified elsewhere in this Annex }			1	1.5 mg/kg		1.271 mg/kg	0.000127 %	✓	
	051-003-00-9									
3	arsenic { arsenic trioxide }				10 mg/kg	1.32	11.183 mg/kg	0.00112 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
4	barium { barium sulphide }				56 mg/kg	1.233	58.507 mg/kg	0.00585 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
5	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
6	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				25 mg/kg	1.462	30.948 mg/kg	0.00309 %	✓	
	215-160-9		1308-38-9							
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
9	copper { copper sulphate }				10 mg/kg	2.512	21.274 mg/kg	0.00213 %	✓	
	029-004-00-0	231-847-6	7758-98-7							
10	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	11 mg/kg		9.317 mg/kg	0.000932 %	✓	
	082-001-00-6									
11	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
12	nickel { nickel chromate }				9 mg/kg	2.976	22.688 mg/kg	0.00227 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									

#	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								
14	zinc { zinc sulphate }				46 mg/kg	2.469	96.209 mg/kg	0.00962 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				0.21 mg/kg		0.178 mg/kg	0.0000178 %		✓	
		201-581-5	85-01-8								
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				0.15 mg/kg		0.127 mg/kg	0.0000127 %		✓	
		205-912-4	206-44-0								
22	pyrene				0.12 mg/kg		0.102 mg/kg	0.0000102 %		✓	
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
29	TPH (C6 to C40) petroleum group				<6 mg/kg		<6 mg/kg	<0.0006 %			<LOD
			TPH								
30	2-(2-butoxyethoxy)ethyl thiocyanate				<3 mg/kg		<3 mg/kg	<0.0003 %			<LOD
	615-018-00-X	203-985-7	112-56-1								
31	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
32	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %			<LOD
	006-007-00-5										
33	benzo[bk]fluoranthene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0279 %		

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
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS01-1.00-25/02/2022

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

Sample details

Sample name:	LoW Code:
WS01-1.00-25/02/2022	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
1.00 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13.9%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13.9% 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				8.1 pH		8.1 pH	8.1 pH		
2	antimony { antimony compounds, with the exception of the tetroxide (Sb ₂ O ₄), pentoxide (Sb ₂ O ₅), trisulphide (Sb ₂ S ₃), pentasulphide (Sb ₂ S ₅) and those specified elsewhere in this Annex }			1	1.3 mg/kg		1.119 mg/kg	0.000112 %	✓	
	051-003-00-9									
3	arsenic { arsenic trioxide }				9 mg/kg	1.32	10.231 mg/kg	0.00102 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
4	barium { barium sulphide }				50 mg/kg	1.233	53.102 mg/kg	0.00531 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
5	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
6	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				20 mg/kg	1.462	25.168 mg/kg	0.00252 %	✓	
	215-160-9		1308-38-9							
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
9	copper { copper sulphate }				10 mg/kg	2.512	21.626 mg/kg	0.00216 %	✓	
	029-004-00-0	231-847-6	7758-98-7							
10	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	7 mg/kg		6.027 mg/kg	0.000603 %	✓	
	082-001-00-6									
11	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
12	nickel { nickel chromate }				17 mg/kg	2.976	43.564 mg/kg	0.00436 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									

#	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								
14	zinc { zinc sulphate }				36 mg/kg	2.469	76.538 mg/kg	0.00765 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				0.12 mg/kg		0.103 mg/kg	0.0000103 %		✓	
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				0.73 mg/kg		0.629 mg/kg	0.0000629 %		✓	
		201-581-5	85-01-8								
20	anthracene				0.19 mg/kg		0.164 mg/kg	0.0000164 %		✓	
		204-371-1	120-12-7								
21	fluoranthene				0.62 mg/kg		0.534 mg/kg	0.0000534 %		✓	
		205-912-4	206-44-0								
22	pyrene				0.5 mg/kg		0.431 mg/kg	0.000043 %		✓	
		204-927-3	129-00-0								
23	benzo[a]anthracene				0.21 mg/kg		0.181 mg/kg	0.0000181 %		✓	
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				0.2 mg/kg		0.172 mg/kg	0.0000172 %		✓	
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				0.16 mg/kg		0.138 mg/kg	0.0000138 %		✓	
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
29	TPH (C6 to C40) petroleum group				<6 mg/kg		<6 mg/kg	<0.0006 %			<LOD
			TPH								
30	2-(2-butoxyethoxy)ethyl thiocyanate				<3 mg/kg		<3 mg/kg	<0.0003 %			<LOD
	615-018-00-X	203-985-7	112-56-1								
31	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
32	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %			<LOD
	006-007-00-5										
33	benzo[bk]fluoranthene				0.21 mg/kg		0.181 mg/kg	0.0000181 %		✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0267 %		

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
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS02-0.05-25/02/2022

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

Sample details

Sample name:	LoW Code:
WS02-0.05-25/02/2022	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.05 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
14.9%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14.9% 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				7.8 pH		7.8 pH	7.8 pH		
2	antimony { antimony compounds, with the exception of the tetroxide (Sb ₂ O ₄), pentoxide (Sb ₂ O ₅), trisulphide (Sb ₂ S ₃), pentasulphide (Sb ₂ S ₅) and those specified elsewhere in this Annex }			1	2.9 mg/kg		2.468 mg/kg	0.000247 %	✓	
	051-003-00-9									
3	arsenic { arsenic trioxide }				8 mg/kg	1.32	8.989 mg/kg	0.000899 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
4	barium { barium sulphide }				97 mg/kg	1.233	101.821 mg/kg	0.0102 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
5	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
6	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				23 mg/kg	1.462	28.607 mg/kg	0.00286 %	✓	
	215-160-9		1308-38-9							
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
9	copper { copper sulphate }				28 mg/kg	2.512	59.849 mg/kg	0.00598 %	✓	
	029-004-00-0	231-847-6	7758-98-7							
10	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	139 mg/kg		118.289 mg/kg	0.0118 %	✓	
	082-001-00-6									
11	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
12	nickel { nickel chromate }				7 mg/kg	2.976	17.73 mg/kg	0.00177 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									

#	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								
14	zinc { zinc sulphate } 030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		135 mg/kg	2.469	283.685 mg/kg	0.0284 %		✓	
15	naphthalene 601-052-00-2	202-049-5	91-20-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
16	acenaphthylene 205-917-1	208-96-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
17	acenaphthene 201-469-6	83-32-9			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
18	fluorene 201-695-5	86-73-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
19	phenanthrene 201-581-5	85-01-8			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
20	anthracene 204-371-1	120-12-7			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
21	fluoranthene 205-912-4	206-44-0			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
22	pyrene 204-927-3	129-00-0			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
23	benzo[a]anthracene 601-033-00-9	200-280-6	56-55-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
24	chrysene 601-048-00-0	205-923-4	218-01-9		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
25	benzo[a]pyrene; benzo[def]chrysene 601-032-00-3	200-028-5	50-32-8		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
26	indeno[123-cd]pyrene 205-893-2	193-39-5			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
27	dibenz[a,h]anthracene 601-041-00-2	200-181-8	53-70-3		<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
28	benzo[ghi]perylene 205-883-8	191-24-2			<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
29	TPH (C6 to C40) petroleum group TPH				<6 mg/kg		<6 mg/kg	<0.0006 %			<LOD
30	2-(2-butoxyethoxy)ethyl thiocyanate 615-018-00-X	203-985-7	112-56-1		<3 mg/kg		<3 mg/kg	<0.0003 %			<LOD
31	monohydric phenols P1186				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
32	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } 006-007-00-5				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %			<LOD
33	benzo[bk]fluoranthene [1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9			<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
Total:									0.0649 %		

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
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS03-0.05-25/02/2022

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

Sample details

Sample name:	LoW Code:
WS03-0.05-25/02/2022	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.05 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
20.2%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 20.2% 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				8.2 pH		8.2 pH	8.2 pH		
2	antimony { antimony compounds, with the exception of the tetroxide (Sb ₂ O ₄), pentoxide (Sb ₂ O ₅), trisulphide (Sb ₂ S ₃), pentasulphide (Sb ₂ S ₅) and those specified elsewhere in this Annex }			1	<1 mg/kg		<1 mg/kg	<0.0001 %		<LOD
	051-003-00-9									
3	arsenic { arsenic trioxide }				7 mg/kg	1.32	7.375 mg/kg	0.000738 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
4	barium { barium sulphide }				35 mg/kg	1.233	34.451 mg/kg	0.00345 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
5	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
6	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				10 mg/kg	1.462	11.663 mg/kg	0.00117 %	✓	
	215-160-9		1308-38-9							
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
9	copper { copper sulphate }				10 mg/kg	2.512	20.043 mg/kg	0.002 %	✓	
	029-004-00-0	231-847-6	7758-98-7							
10	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	39 mg/kg		31.122 mg/kg	0.00311 %	✓	
	082-001-00-6									
11	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
12	nickel { nickel chromate }				12 mg/kg	2.976	28.501 mg/kg	0.00285 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									

#	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								
14	zinc { zinc sulphate }				33 mg/kg	2.469	65.026 mg/kg	0.0065 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
29	TPH (C6 to C40) petroleum group				<6 mg/kg		<6 mg/kg	<0.0006 %			<LOD
			TPH								
30	2-(2-butoxyethoxy)ethyl thiocyanate				<3 mg/kg		<3 mg/kg	<0.0003 %			<LOD
	615-018-00-X	203-985-7	112-56-1								
31	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
32	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %			<LOD
	006-007-00-5										
33	benzo[bk]fluoranthene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0227 %		

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
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
ND	Not detected
CLP: Note 1	Only the metal concentration has been used for classification

Classification of sample: WS03-2.00-25/02/2022

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

Sample details

Sample name:	LoW Code:
WS03-2.00-25/02/2022	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
2.00 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
13.8%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 13.8% 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	antimony { antimony compounds, with the exception of the tetroxide (Sb ₂ O ₄), pentoxide (Sb ₂ O ₅), trisulphide (Sb ₂ S ₃), pentasulphide (Sb ₂ S ₅) and those specified elsewhere in this Annex }			1	1.3 mg/kg		1.121 mg/kg	0.000112 %	✓	
	051-003-00-9									
3	arsenic { arsenic trioxide }				3 mg/kg	1.32	3.414 mg/kg	0.000341 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
4	barium { barium sulphide }				34 mg/kg	1.233	36.151 mg/kg	0.00362 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
5	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
6	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17 mg/kg	1.462	21.418 mg/kg	0.00214 %	✓	
	215-160-9		1308-38-9							
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
9	copper { copper sulphate }				<4 mg/kg	2.512	<10.047 mg/kg	<0.001 %		<LOD
	029-004-00-0	231-847-6	7758-98-7							
10	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	3 mg/kg		2.586 mg/kg	0.000259 %	✓	
	082-001-00-6									
11	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
12	nickel { nickel chromate }				<3 mg/kg	2.976	<8.929 mg/kg	<0.000893 %		<LOD
	028-035-00-7	238-766-5	14721-18-7							
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									

#	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								
14	zinc { zinc sulphate }				13 mg/kg	2.469	27.671 mg/kg	0.00277 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-581-5	85-01-8								
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-371-1	120-12-7								
21	fluoranthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-912-4	206-44-0								
22	pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		204-927-3	129-00-0								
23	benzo[a]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-883-8	191-24-2								
29	TPH (C6 to C40) petroleum group				<6 mg/kg		<6 mg/kg	<0.0006 %			<LOD
			TPH								
30	2-(2-butoxyethoxy)ethyl thiocyanate				<3 mg/kg		<3 mg/kg	<0.0003 %			<LOD
	615-018-00-X	203-985-7	112-56-1								
31	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
32	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %			<LOD
	006-007-00-5										
33	polychlorobiphenyls; PCB				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	602-039-00-4	215-648-1	1336-36-3								
34	benzo[bk]fluoranthene				<0.2 mg/kg		<0.2 mg/kg	<0.00002 %			<LOD
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.0139 %		

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
- This determinand is defined in the EU CLP Table 3
- <LOD** Below limit of detection
- ND** Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

WAC results for sample: WS03-2.00-25/02/2022

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample **PASSES** the Inert (Inert waste landfill) criteria.

The sample **PASSES** the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	0.1	3	5	6
2	LOI (loss on ignition)	%	1.9	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.05	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.1	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	<10	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	<1.7	100	-	-
7	pH	pH	7.9	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	<1	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	<0.2	0.5	2	25
10	barium	mg/kg	<0.1	20	100	300
11	cadmium	mg/kg	<0.02	0.04	1	5
12	chromium	mg/kg	<0.2	0.5	10	70
13	copper	mg/kg	<0.5	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	<0.1	0.5	10	30
16	nickel	mg/kg	<0.2	0.4	10	40
17	lead	mg/kg	<0.2	0.5	10	50
18	antimony	mg/kg	<0.05	0.06	0.7	5
19	selenium	mg/kg	<0.05	0.1	0.5	7
20	zinc	mg/kg	<0.2	4	50	200
21	chloride	mg/kg	16	800	15,000	25,000
22	fluoride	mg/kg	<1	10	150	500
23	sulphate	mg/kg	<20	1,000	20,000	50,000
24	phenol index	mg/kg	<0.5	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	119	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	207	4,000	60,000	100,000

Key

	User supplied data
	Not applicable

Classification of sample: WS05-0.50-25/02/2022

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

Sample details

Sample name:	LoW Code:
WS05-0.50-25/02/2022	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)
0.50 m	
Moisture content:	
11.2%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11.2% 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				8.1 pH		8.1 pH	8.1 pH		
2	antimony { antimony compounds, with the exception of the tetroxide (Sb ₂ O ₄), pentoxide (Sb ₂ O ₅), trisulphide (Sb ₂ S ₃), pentasulphide (Sb ₂ S ₅) and those specified elsewhere in this Annex }			1	2.4 mg/kg		2.131 mg/kg	0.000213 %	✓	
	051-003-00-9									
3	arsenic { arsenic trioxide }				7 mg/kg	1.32	8.207 mg/kg	0.000821 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
4	barium { barium sulphide }				65 mg/kg	1.233	71.197 mg/kg	0.00712 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
5	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
6	cadmium { cadmium sulfide }			1	<0.2 mg/kg	1.285	<0.257 mg/kg	<0.00002 %		<LOD
	048-010-00-4	215-147-8	1306-23-6							
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				17 mg/kg	1.462	22.064 mg/kg	0.00221 %	✓	
		215-160-9	1308-38-9							
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
9	copper { copper sulphate }				16 mg/kg	2.512	35.686 mg/kg	0.00357 %	✓	
	029-004-00-0	231-847-6	7758-98-7							
10	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	326 mg/kg		289.488 mg/kg	0.0289 %	✓	
	082-001-00-6									
11	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
12	nickel { nickel chromate }				4 mg/kg	2.976	10.572 mg/kg	0.00106 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									

#	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							
14	zinc { zinc sulphate }									
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]		80 mg/kg	2.469	175.419 mg/kg	0.0175 %	✓	
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3							
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-917-1	208-96-8							
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		201-469-6	83-32-9							
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		201-695-5	86-73-7							
19	phenanthrene				0.21 mg/kg		0.186 mg/kg	0.0000186 %	✓	
		201-581-5	85-01-8							
20	anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		204-371-1	120-12-7							
21	fluoranthene				0.44 mg/kg		0.391 mg/kg	0.0000391 %	✓	
		205-912-4	206-44-0							
22	pyrene				0.37 mg/kg		0.329 mg/kg	0.0000329 %	✓	
		204-927-3	129-00-0							
23	benzo[a]anthracene				0.15 mg/kg		0.133 mg/kg	0.0000133 %	✓	
	601-033-00-9	200-280-6	56-55-3							
24	chrysene				0.19 mg/kg		0.169 mg/kg	0.0000169 %	✓	
	601-048-00-0	205-923-4	218-01-9							
25	benzo[a]pyrene; benzo[def]chrysene				0.14 mg/kg		0.124 mg/kg	0.0000124 %	✓	
	601-032-00-3	200-028-5	50-32-8							
26	indeno[123-cd]pyrene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-893-2	193-39-5							
27	dibenz[a,h]anthracene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
	601-041-00-2	200-181-8	53-70-3							
28	benzo[ghi]perylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %		<LOD
		205-883-8	191-24-2							
29	TPH (C6 to C40) petroleum group				9 mg/kg		7.992 mg/kg	0.000799 %	✓	
			TPH							
30	2-(2-butoxyethoxy)ethyl thiocyanate				<3 mg/kg		<3 mg/kg	<0.0003 %		<LOD
	615-018-00-X	203-985-7	112-56-1							
31	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %		<LOD
			P1186							
32	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %		<LOD
	006-007-00-5									
33	benzo[bk]fluoranthene				0.2 mg/kg		0.178 mg/kg	0.0000178 %	✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9							
Total:								0.0645 %		

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
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
ND	Not detected
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 because No free product

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00079%)

Classification of sample: TP02-0.30-25/02/2022

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

Sample details

Sample name:	LoW Code:
TP02-0.30-25/02/2022	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.30 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
11%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 11% 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	antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex }			1	5.9 mg/kg		5.251 mg/kg	0.000525 %	✓	
	051-003-00-9									
3	arsenic { arsenic trioxide }				21 mg/kg	1.32	24.677 mg/kg	0.00247 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
4	barium { barium sulphide }				363 mg/kg	1.233	398.505 mg/kg	0.0399 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
5	boron { diboron trioxide }				<1 mg/kg	3.22	<3.22 mg/kg	<0.000322 %		<LOD
	005-008-00-8	215-125-8	1303-86-2							
6	cadmium { cadmium sulfide }			1	1.5 mg/kg	1.285	1.716 mg/kg	0.000133 %	✓	
	048-010-00-4	215-147-8	1306-23-6							
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				22 mg/kg	1.462	28.617 mg/kg	0.00286 %	✓	
	215-160-9		1308-38-9							
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
9	copper { copper sulphate }				232 mg/kg	2.512	518.616 mg/kg	0.0519 %	✓	
	029-004-00-0	231-847-6	7758-98-7							
10	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	797 mg/kg		709.33 mg/kg	0.0709 %	✓	
	082-001-00-6									
11	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
12	nickel { nickel chromate }				14 mg/kg	2.976	37.084 mg/kg	0.00371 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									

#	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									
14	zinc { zinc sulphate }				363	mg/kg	2.469	797.756	mg/kg	0.0798 %	✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]									
15	naphthalene				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	601-052-00-2	202-049-5	91-20-3									
16	acenaphthylene				0.38	mg/kg		0.338	mg/kg	0.0000338 %	✓	
		205-917-1	208-96-8									
17	acenaphthene				0.78	mg/kg		0.694	mg/kg	0.0000694 %	✓	
		201-469-6	83-32-9									
18	fluorene				0.85	mg/kg		0.757	mg/kg	0.0000757 %	✓	
		201-695-5	86-73-7									
19	phenanthrene				29.5	mg/kg		26.255	mg/kg	0.00263 %	✓	
		201-581-5	85-01-8									
20	anthracene				4.82	mg/kg		4.29	mg/kg	0.000429 %	✓	
		204-371-1	120-12-7									
21	fluoranthene				66	mg/kg		58.74	mg/kg	0.00587 %	✓	
		205-912-4	206-44-0									
22	pyrene				54.1	mg/kg		48.149	mg/kg	0.00481 %	✓	
		204-927-3	129-00-0									
23	benzo[a]anthracene				24.2	mg/kg		21.538	mg/kg	0.00215 %	✓	
	601-033-00-9	200-280-6	56-55-3									
24	chrysene				21.3	mg/kg		18.957	mg/kg	0.0019 %	✓	
	601-048-00-0	205-923-4	218-01-9									
25	benzo[a]pyrene; benzo[def]chrysene				17.6	mg/kg		15.664	mg/kg	0.00157 %	✓	
	601-032-00-3	200-028-5	50-32-8									
26	indeno[123-cd]pyrene				6.54	mg/kg		5.821	mg/kg	0.000582 %	✓	
		205-893-2	193-39-5									
27	dibenz[a,h]anthracene				1.83	mg/kg		1.629	mg/kg	0.000163 %	✓	
	601-041-00-2	200-181-8	53-70-3									
28	benzo[ghi]perylene				4.91	mg/kg		4.37	mg/kg	0.000437 %	✓	
		205-883-8	191-24-2									
29	TPH (C6 to C40) petroleum group				690	mg/kg		614.1	mg/kg	0.0614 %	✓	
			TPH									
30	2-(2-butoxyethoxy)ethyl thiocyanate				<3	mg/kg		<3	mg/kg	<0.0003 %		<LOD
	615-018-00-X	203-985-7	112-56-1									
31	monohydric phenols				<2	mg/kg		<2	mg/kg	<0.0002 %		<LOD
			P1186									
32	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2	mg/kg	1.884	<3.768	mg/kg	<0.000377 %		<LOD
	006-007-00-5											
33	polychlorobiphenyls; PCB				<0.1	mg/kg		<0.1	mg/kg	<0.00001 %		<LOD
	602-039-00-4	215-648-1	1336-36-3									
34	benzo[bk]fluoranthene				30.23	mg/kg		26.905	mg/kg	0.00269 %	✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9									
Total:										0.339 %		

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
- This determinand is defined in the EU CLP Table 3
- <LOD Below limit of detection
- ND Not detected
- 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 because No free product

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.0614%)

WAC results for sample: TP02-0.30-25/02/2022

WAC Settings: samples in this Job constitute a single population.

WAC limits used to evaluate this sample: "UK"

The WAC used in this report are the WAC defined for the inert, stable non-reactive hazardous and hazardous classes of landfill in the UK. You should check the actual acceptance criteria when the disposal site is identified as they may differ from the generic WAC used in this report.

The sample FAILS the Inert (Inert waste landfill) criteria.

The sample FAILS the SNRHW (Stable non-reactive hazardous waste in non-hazardous landfill) criteria.

WAC Determinands

Solid Waste Analysis				Landfill Waste Acceptance Criteria Limits		
#	Determinand		User entered data	Inert waste landfill	Stable non-reactive hazardous waste in non-hazardous landfill	Hazardous waste landfill
1	TOC (total organic carbon)	%	5.4	3	5	6
2	LOI (loss on ignition)	%	8.7	-	-	10
3	BTEX (benzene, toluene, ethylbenzene and xylenes)	mg/kg	<0.05	6	-	-
4	PCBs (polychlorinated biphenyls, 7 congeners)	mg/kg	<0.1	1	-	-
5	Mineral oil (C10 to C40)	mg/kg	84	500	-	-
6	PAHs (polycyclic aromatic hydrocarbons)	mg/kg	265	100	-	-
7	pH	pH	7.7	-	>6	-
8	ANC (acid neutralisation capacity)	mol/kg	<1	-	-	-
Eluate Analysis 10:1						
9	arsenic	mg/kg	<0.2	0.5	2	25
10	barium	mg/kg	0.2	20	100	300
11	cadmium	mg/kg	<0.02	0.04	1	5
12	chromium	mg/kg	<0.2	0.5	10	70
13	copper	mg/kg	<0.5	2	50	100
14	mercury	mg/kg	<0.005	0.01	0.2	2
15	molybdenum	mg/kg	<0.1	0.5	10	30
16	nickel	mg/kg	<0.2	0.4	10	40
17	lead	mg/kg	<0.2	0.5	10	50
18	antimony	mg/kg	<0.05	0.06	0.7	5
19	selenium	mg/kg	<0.05	0.1	0.5	7
20	zinc	mg/kg	<0.2	4	50	200
21	chloride	mg/kg	36	800	15,000	25,000
22	fluoride	mg/kg	1	10	150	500
23	sulphate	mg/kg	299	1,000	20,000	50,000
24	phenol index	mg/kg	<0.5	1	-	-
25	DOC (dissolved organic carbon)	mg/kg	190	500	800	1,000
26	TDS (total dissolved solids)	mg/kg	1016	4,000	60,000	100,000

Key

	User supplied data
	Not applicable
	Inert WAC criteria fail
	SNRHW WAC criteria fail

Classification of sample: TP03-0.80-25/02/2022

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

Sample details

Sample name:	LoW Code:
TP03-0.80-25/02/2022	Chapter:
Sample Depth:	17: Construction and Demolition Wastes (including excavated soil from contaminated sites)
0.80 m	Entry:
Moisture content:	17 05 04 (Soil and stones other than those mentioned in 17 05 03)
14.1%	
(wet weight correction)	

Hazard properties

None identified

Determinands

Moisture content: 14.1% 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	antimony { antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex }			1	7.2 mg/kg		6.185 mg/kg	0.000618 %	✓	
	051-003-00-9									
3	arsenic { arsenic trioxide }				10 mg/kg	1.32	11.342 mg/kg	0.00113 %	✓	
	033-003-00-0	215-481-4	1327-53-3							
4	barium { barium sulphide }				157 mg/kg	1.233	166.353 mg/kg	0.0166 %	✓	
	016-002-00-X	244-214-4	21109-95-5							
5	boron { diboron trioxide }				1.9 mg/kg	3.22	5.255 mg/kg	0.000526 %	✓	
	005-008-00-8	215-125-8	1303-86-2							
6	cadmium { cadmium sulfide }			1	0.3 mg/kg	1.285	0.331 mg/kg	0.0000258 %	✓	
	048-010-00-4	215-147-8	1306-23-6							
7	chromium in chromium(III) compounds { chromium(III) oxide (worst case) }				18 mg/kg	1.462	22.599 mg/kg	0.00226 %	✓	
	215-160-9		1308-38-9							
8	chromium in chromium(VI) compounds { chromium(VI) oxide }				<2 mg/kg	1.923	<3.846 mg/kg	<0.000385 %		<LOD
	024-001-00-0	215-607-8	1333-82-0							
9	copper { copper sulphate }				56 mg/kg	2.512	120.823 mg/kg	0.0121 %	✓	
	029-004-00-0	231-847-6	7758-98-7							
10	lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) }			1	394 mg/kg		338.446 mg/kg	0.0338 %	✓	
	082-001-00-6									
11	mercury { mercury dichloride }				<1 mg/kg	1.353	<1.353 mg/kg	<0.000135 %		<LOD
	080-010-00-X	231-299-8	7487-94-7							
12	nickel { nickel chromate }				7 mg/kg	2.976	17.896 mg/kg	0.00179 %	✓	
	028-035-00-7	238-766-5	14721-18-7							
13	selenium { selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex }				<2 mg/kg	1.405	<2.81 mg/kg	<0.000281 %		<LOD
	034-002-00-8									

#	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								
14	zinc { zinc sulphate }				184 mg/kg	2.469	390.287 mg/kg	0.039 %		✓	
	030-006-00-9	231-793-3 [1] 231-793-3 [2]	7446-19-7 [1] 7733-02-0 [2]								
15	naphthalene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
	601-052-00-2	202-049-5	91-20-3								
16	acenaphthylene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		205-917-1	208-96-8								
17	acenaphthene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-469-6	83-32-9								
18	fluorene				<0.1 mg/kg		<0.1 mg/kg	<0.00001 %			<LOD
		201-695-5	86-73-7								
19	phenanthrene				0.38 mg/kg		0.326 mg/kg	0.0000326 %		✓	
		201-581-5	85-01-8								
20	anthracene				0.12 mg/kg		0.103 mg/kg	0.0000103 %		✓	
		204-371-1	120-12-7								
21	fluoranthene				1.04 mg/kg		0.893 mg/kg	0.0000893 %		✓	
		205-912-4	206-44-0								
22	pyrene				0.9 mg/kg		0.773 mg/kg	0.0000773 %		✓	
		204-927-3	129-00-0								
23	benzo[a]anthracene				0.42 mg/kg		0.361 mg/kg	0.0000361 %		✓	
	601-033-00-9	200-280-6	56-55-3								
24	chrysene				0.54 mg/kg		0.464 mg/kg	0.0000464 %		✓	
	601-048-00-0	205-923-4	218-01-9								
25	benzo[a]pyrene; benzo[def]chrysene				0.58 mg/kg		0.498 mg/kg	0.0000498 %		✓	
	601-032-00-3	200-028-5	50-32-8								
26	indeno[123-cd]pyrene				0.47 mg/kg		0.404 mg/kg	0.0000404 %		✓	
		205-893-2	193-39-5								
27	dibenz[a,h]anthracene				0.13 mg/kg		0.112 mg/kg	0.0000112 %		✓	
	601-041-00-2	200-181-8	53-70-3								
28	benzo[ghi]perylene				0.49 mg/kg		0.421 mg/kg	0.0000421 %		✓	
		205-883-8	191-24-2								
29	TPH (C6 to C40) petroleum group				88 mg/kg		75.592 mg/kg	0.00756 %		✓	
			TPH								
30	2-(2-butoxyethoxy)ethyl thiocyanate				<3 mg/kg		<3 mg/kg	<0.0003 %			<LOD
	615-018-00-X	203-985-7	112-56-1								
31	monohydric phenols				<2 mg/kg		<2 mg/kg	<0.0002 %			<LOD
			P1186								
32	cyanides { salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex }				<2 mg/kg	1.884	<3.768 mg/kg	<0.000377 %			<LOD
	006-007-00-5										
33	benzo[bk]fluoranthene				1.05 mg/kg		0.902 mg/kg	0.0000902 %		✓	
		[1] 205-911-9 [2] 205-916-6	[1] 205-99-2 [2] 207-08-9								
Total:									0.118 %		

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
	This determinand is defined in the EU CLP Table 3
<LOD	Below limit of detection
ND	Not detected
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 because No free product

Hazard Statements hit:

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

Because of determinand:

TPH (C6 to C40) petroleum group: (conc.: 0.00756%)

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.

■ barium sulphide (EC Number: 244-214-4, CAS Number: 21109-95-5)

Index No: 016-002-00-X
Description/Comments:
Additional Hazard Statement(s): EUH031 >= 0.8 %
Reason for additional Hazards Statement(s):
14 Dec 2015 - EUH031 >= 0.8 % hazard statement sourced from: WM3, Table C12.2

■ diboron trioxide (EC Number: 215-125-8, CAS Number: 1303-86-2)

EU CLP index number: 005-008-00-8
Description/Comments:
Data source: Regulation (EU) 2021/849 of 11 March 2021 (ATP17)
Hazard Statements: Repr. 1B; H360D

■ 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

■ lead compounds with the exception of those specified elsewhere in this Annex (worst case)

Index No: 082-001-00-6
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following CLP protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A
Additional Hazard Statement(s): Carc. 1A; H350
Reason for additional Hazards Statement(s):
03 Jun 2015 - Carc. 1A; H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium www.reach-lead.eu/substanceinformation.html (worst case lead compounds). Review date 29/09/2015

■ 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

▪ **indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

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: Carc. 2; H351

▪ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

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

Data source date: 23 Jul 2015

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

▪ **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

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

▪ **monohydric phenols** (CAS Number: P1186)

Description/Comments: Combined hazards statements from harmonised entries in CLP for phenol, cresols and xylenols (604-001-00-2, 604-004-00-9, 604-006-00-X)

Data source: CLP combined data

Data source date: 26 Mar 2019

Hazard Statements: Acute Tox. 3; H301, Acute Tox. 3; H311, Acute Tox. 3; H331, Skin Corr. 1B; H314, Skin Corr. 1B; H314 >= 3 %, Skin Irrit. 2; H315 1 & conc. < 3 %, Eye Irrit. 2; H319 1 & conc. < 3 %, Muta. 2; H341, STOT RE 2; H373, Aquatic Chronic 2; H411

▪ **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

Index No: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

▪ **benzo[bk]fluoranthene** (EC Number: [1] 205-911-9 [2] 205-916-6, CAS Number: [1] 205-99-2 [2] 207-08-9)

Description/Comments: Combined data from harmonised entries in CLP for benzo[b] and benzo[k]fluoranthene; C&L Inventory Database

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

Data source date: 02 Mar 2017

Hazard Statements: Carc. 1B; H350, Aquatic Acute 1; H400, Aquatic Chronic 1; H410

▪ **polychlorobiphenyls; PCB** (EC Number: 215-648-1, CAS Number: 1336-36-3)

Index No: 602-039-00-4

Description/Comments: Worst Case: IARC considers PCB Group 1; Carcinogenic to humans; POP specific threshold from ATP1 (Regulation 756/2010/EU) to POPs Regulation (Regulation 850/2004/EC). Where applicable, the calculation method laid down in European standards EN 12766-1 and EN 12766-2 shall be applied.

Additional Hazard Statement(s): Carc. 1A; H350

Reason for additional Hazards Statement(s):

29 Sep 2015 - Carc. 1A; H350 hazard statement sourced from: IARC Group 1 (23, Sup 7, 100C) 2012

Appendix B: Rationale for selection of metal species

antimony {antimony compounds, with the exception of the tetroxide (Sb₂O₄), pentoxide (Sb₂O₅), trisulphide (Sb₂S₃), pentasulphide (Sb₂S₅) and those specified elsewhere in this Annex}

(enter justification for selecting this species)

arsenic {arsenic trioxide}

(enter justification for selecting this species)

barium {barium sulphide}

No Chromium VI

boron {diboron trioxide}

(enter justification for selecting this species)

cadmium {cadmium sulfide}

(enter justification for selecting this species)

chromium in chromium(III) compounds {chromium(III) oxide (worst case)}

(enter justification for selecting this species)

chromium in chromium(VI) compounds {chromium(VI) oxide}

(enter justification for selecting this species)

copper {copper sulphate}

No soluble Copper

lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

No Chromium VI

mercury {mercury dichloride}

(enter justification for selecting this species)

nickel {nickel chromate}

(enter justification for selecting this species)

selenium {selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex}

(enter justification for selecting this species)

zinc {zinc sulphate}

No soluble Zinc

cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}

worst case

Appendix C: Version

HazWasteOnline Classification Engine: WM3 1st Edition v1.2.GB - Oct 2021
HazWasteOnline Classification Engine Version: 2017.202.300.300 (23 Mar 2022)
HazWasteOnline Database: 2022.81.5064.9565 (22 Mar 2022)

This classification utilises the following guidance and legislation:

WM3 v1.2.GB - Waste Classification - 1st Edition v1.2.GB - Oct 2021

CLP Regulation - Regulation 1272/2008/EC of 16 December 2008

1st ATP - Regulation 790/2009/EC of 10 August 2009

2nd ATP - Regulation 286/2011/EC of 10 March 2011

3rd ATP - Regulation 618/2012/EU of 10 July 2012

4th ATP - Regulation 487/2013/EU of 8 May 2013

Correction to 1st ATP - Regulation 758/2013/EU of 7 August 2013

5th ATP - Regulation 944/2013/EU of 2 October 2013

6th ATP - Regulation 605/2014/EU of 5 June 2014

WFD Annex III replacement - Regulation 1357/2014/EU of 18 December 2014

Revised List of Waste 2014 - Decision 2014/955/EU of 18 December 2014

7th ATP - Regulation 2015/1221/EU of 24 July 2015

8th ATP - Regulation (EU) 2016/918 of 19 May 2016

9th ATP - Regulation (EU) 2016/1179 of 19 July 2016

10th ATP - Regulation (EU) 2017/776 of 4 May 2017

HP14 amendment - Regulation (EU) 2017/997 of 8 June 2017

13th ATP - Regulation (EU) 2018/1480 of 4 October 2018

14th ATP - Regulation (EU) 2020/217 of 4 October 2019

15th ATP - Regulation (EU) 2020/1182 of 19 May 2020

The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use)(Amendment etc.) (EU Exit)

Regulations 2020 - UK: 2020 No. 1567 of 16th December 2020

The Waste and Environmental Permitting etc. (Legislative Functions and Amendment etc.) (EU Exit) Regulations 2020 - UK:

2020 No. 1540 of 16th December 2020

GB MCL List - version 1.1 of 09 June 2021

Appendix F

Groundwater Monitoring Data

Gravesham Borough Council



Date: 18/03/2022
Site: Armoury Drive
Job Ref: 4551
Monitoring Round: 1

Borehole Ref:	Dip [m]	Plumb [m]	Comments
WS01	Dry	4.02	
WS02	Dry	3.85	
WS03	Dry	3.98	
WS04	Dry	4.06	
WS05	Dry	3.98	

Atmospheric pressure start:	1030mb
Atmospheric pressure finish:	1030mb
Weather:	Sunny



Date: 31/03/2022
Site: Armoury Drive
Job Ref: 4551
Monitoring Round: 2

Borehole Ref:	Dip [m]	Plumb [m]	Comments
WS01	Dry	3.93	
WS02	Dry	3.75	
WS03	Dry	3.90	
WS04	Dry	3.97	
WS05	Dry	3.87	

Atmospheric pressure start:	987mb
Atmospheric pressure finish:	985mb
Weather:	Snowing



Date: 21/04/2022
Site: Armoury Drive
Job Ref: 4551
Monitoring Round: 3

Borehole Ref:	Dip [m]	Plumb [m]	Comments
WS01	Dry	4.03	
WS02	Dry	3.85	
WS03	Dry	3.98	
WS04	Dry	4.05	
WS05	Dry	3.95	

Atmospheric pressure start:	1001mb
Atmospheric pressure finish:	1004mb
Weather:	Sunny



Date: 29/04/2022
Site: Armoury Drive
Job Ref: 4551
Monitoring Round: 4

Borehole Ref:	Dip [m]	Plumb [m]	Comments
WS01	Dry	4.03	
WS02	Dry	3.87	
WS03	Dry	3.99	
WS04	Dry	4.05	
WS05	Dry	3.97	

Atmospheric pressure start:	1016mb
Atmospheric pressure finish:	1015mb
Weather:	Sunny

Appendix G

Qualitative Risk Assessment Definitions

Gravesham Borough Council

Definitions

Defining Severity of Impact

The terms Severe, Medium, Mild and Minor are used to describe the severity of impact of a given source upon a given receptor in the event of a Source-Pathway-Receptor (SPR) Linkage being realised. These terms are defined as follows:

Severe	Acute risks to human health, catastrophic damage to buildings / properties, major pollution of controlled waters, adverse change to a habitat protected under UK or EC law;
Medium	Chronic non-fatal harm (recoverable), minor harm, ill-health or impairment of humans, livestock or crops, flora and fauna, pollution of sensitive controlled waters, impact on sensitive ecosystems or species, significant damage to buildings / properties;
Mild	Pollution of non-sensitive waters, minor damage to buildings or structures
Minor	Requirement for protective equipment during site works to mitigate "normal" risks / health effects, impact to non-sensitive ecosystems or species, no groundwater / surface water contamination above (background) levels.

Defining Probability of an Exposure being realised

The terms High Likelihood, Likely, Low Likelihood and Unlikely are used to describe the probability of impact of a given source upon a given receptor in the event of a SPR Linkage being realised. These terms are defined as follows:

High Likelihood	There is already evidence of a impact to the receptor, the pollutant linkage may be realised and risk is certain to occur in the long term.
Likely	A pollutant linkage may already be present or it is probable that an event will occur in the long term.
Low Likelihood	A pollution linkage may be present and under certain circumstances it is possible that the risk could occur although there is no certainty.
Unlikely	A pollution linkage may be present but the circumstances under which harm would occur are improbable.

Defining Risk

Standard Risk Matrix – The potential severity of impact and the probability of the risk occurring have been combined according to the risk matrix below to provide a level of risk for each hazard

		Severity of Impact			
		Severe	Medium	Mild	Minor
Probability of Exposure	High Likelihood	Very High	High	Moderate	Low/ Moderate
	Likely	High	Moderate	Low / Moderate	Low
	Low Likelihood	Moderate	Low / Moderate	Low	Very Low
	Unlikely	Low / Moderate	Low	Very Low	Very Low

Descriptions of the risks and actions likely to be required:

Very High Risk	Indicates of a high probability that severe harm could occur to a identified receptor from an identified hazard or there is evidence that severe harm to an indicated receptor is currently being realized. Urgent investigation and remediation are likely to be required. This level of risk if realised, is likely to result in a substantial liability.
High Risk	Indicates harm is likely to occur to an identified receptor from an identified hazard. Urgent investigation is required, and remedial works may be necessary in the short term and are likely over the longer term. Realisation of the risk is likely to present a substantial liability.
Moderate Risk	Indicates that it is possible that harm could occur to a designated receptor from an identified hazard, however it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low Risk	Indicates that it is possible that harm could arise to a designated receptor from an identified hazard, but is most likely that this harm if realized, would be at worst normally be mild.
Very Low Risk	Indicates there is a low possibility that harm could arise to a receptor. In the event of such harm being realized it is not likely to be severe.